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PART FIRST.

ORIGINAL COMMUNICATIONS.

ART. I.—*On Chronic Hydrocephalus, with an Account of a remarkable Case in which Paracentesis was performed, and on the Statistics of this Operation.* By GEORGE C. BLACKMAN, M. D., Fellow of the Royal Medical and Chirurgical Society of London. [With illustrations.]

ABOUT the first of May, 1850, a child of Mr. P., of Newburgh, was placed under our care, for the treatment of chronic hydrocephalus. This child was six months of age; its body and extremities were well formed, but the appearance of its head is well represented in Fig. 1st. The circumference of the head was about thirty inches, and, when held between the eye and the light, it was perfectly transparent. The integuments were highly vascular at various points; and at its anterior and posterior portions there were bag-like protuberances, appearing as if about to burst from the pressure of the enormous quantity of fluid within. The health of the child was good, nutrition well performed, and, with the exception of the threatened rupture of the cranial coverings, there were no indications of immediate danger to life. The head began to enlarge very soon after birth, and continued to increase,

until, when about four months old, during the night, the cranial cavity became suddenly nearly empty, whilst the integuments covering the entire body were distended as in anasarca. In the course of a few days, the latter completely disappeared, and the head regained its accustomed extraordinary size. In this condition we first saw it, and, as it would have been but folly to have held out an idea of cure, we proposed, by puncture, gradually to diminish the distention of the scalp, and to save the parents from the shock of witnessing the sudden death of their child, by the spontaneous

Fig. 1.

opening which seemed not far distant. With a narrow bistoury an opening was made through the thin and distended coverings of the cranium, and about six or eight ounces of fluid were allowed to escape before the puncture was closed with collodion. The first tapping was done on the 6th of May, and, as no unpleasant immediate effects followed, another opening was made some two or three days afterwards, and, in the course of ten days, about two quarts had been evacuated. On the 18th of May, after a few hours of suffering, with symptoms of restlessness, vomiting, &c., the child died. After death, the scalp was freely laid open, and the fluid emptied from the cranial cavity, filling an ordinary-sized washbowl. There were no traces of cerebral substance to

be found, but at the base of the brain the pons varolii and medulla oblongata existed of their natural size and shape.

Shortly after the period above mentioned, I drew up a more detailed account of this case, which was presented to the Orange County Medical Society, but, having lost this report, we have been compelled to furnish the above history from memory.

Dr. Glover has reported, in the *Philadelphia Journ. Med. & Phys. Sciences*, vol. ii., p. 159, a case of congenital hydrocephalus, in which he performed repeated punctures, and drew off in all eighteen ounces of fluid. The child died 110 days after the first operation, and eight after the last. In this case, the brain was nearly all absorbed; the portion remaining was not larger than a hen's egg.

Dr. Delafield communicated to the *Amer. Med. Recorder*, July, 1821, the particulars of a case in which Dr. Wetmore withdrew, in the course of eight days, 116 ounces of fluid. The child died on the ninth day after the first puncture, and it was found that the whole upper part of the brain had disappeared; at the base, there remained what appeared to be the pons varolii.

Dr. Remmett has recorded a case in the *Edin. Med. Commentaries*, vol. vi., part iv., in which the child died three months, nine days, after the first, and thirty-one days after the last puncture. Scarcely any brain could be found after death, but its enormous cavity was filled with clear water. The medulla oblongata, and a small portion of cerebral substance behind the orbits, were all that remained.

In the *Philosophical Transactions*, vol. xlii., there is the report of a case by Dr. Baster, in which a child affected with hydrocephalus died at the age of two and a half years. The cranial cavity contained 107 ozs. fluid, and there was no appearance of brain, but only a strong membrane, thicker in some places, and thinner in others. The ventricles together formed one huge cavity. While the child lived, the vital and natural actions were performed, but it seemed incapable of any animal action. It was constantly quiet and drowsy,

without crying, was deaf, and died without any convulsion or apparent struggle.

These are all the cases we have been able to find, corresponding with our own, as to the almost complete disappearance of the cerebral substance. It certainly is remarkable, that with such extensive disorganization the child should be able to see, hear, taste, feel, &c., and yet this was true not only in my own case but in that of Dr. Wetmore. Transparency of the head, we believe, is not a common feature in this disease, though it has been observed by Butcher (*Gazette Médicale*, 1843), as well as in the patient which came under our care.

The sudden and spontaneous disappearance of the fluid after diarrhœa, copious perspiration, cutaneous eruption, and other salutary crises, has been noticed by M. Nelaton (*Elem. de Path. Chirurg.*, vol. ii., p. 642). Dr. J. W. Hubbell has reported in the *New-York Journal of Medicine*, May, 1850, p. 396, an interesting case of hydrocephalus terminating spontaneously in recovery, after the appearance of an eruption on the side of the head, which gradually spread over the whole scalp, and kept up a constant and free discharge for the space of two months. The head constantly diminished, while the body increased in size. In two months, the bones of the cranium had approached each other, but not united. In three months, the sutures had united, and the eruption disappeared. The child was fat, and in every respect healthy. —No medication was used at any time. Frank mentions a case which disappeared on the invasion of a scrofulous affection in another part of the body; and both he and Gölis have seen very favorable effects from the appearance of eruptions. In our patient the fluid was transferred to the cellular tissue, covering the whole body.

We have alluded to the perfect manner in which nutrition was performed; and instances are on record in which patients thus affected have reached upwards of thirty years of age. Prof. Vrolik has represented, in his magnificent *Tabulae Embryogennesin Hominis*, &c. (plate 38), the skull taken from a

man, aet. 32, who died affected with internal hydrocephalus. This man "a prima infantia hydrocephalo laboravit, et cum eo ad satis provectam, quam dixi, aetatem pervenit, columnam dorsalem habebat curvatam. Inferioris corporis artus vix superioris pondus sustentare valebant. Ceteroquin erat sanus et nequaquam mente imbecillus." From the uniform and equal distention of the ventricles, this man's head appeared like that of a giant.

Rokitansky states (*Path. Anatomy*, Syd. Ed. vol. iii., p. 366) that, as a general rule, hydrocephalus is a symmetrical disease; and that its chief seat, in all its forms, is the lateral ventricles. When it is found in the arachnoid cavity, according to MM. Rilliet and Barthez (*Traité des Maladies des Enfants*), it is always the result of a hemorrhage from this serous membrane into its cavity; for it is in this variety that the fluid is generally found bloody.

The authors of the *Compendium de Chirurgie Pratique*, &c., *Tome Deuxième*, p. 537, remark that it is in these cases we sometimes meet with transparency; but, when seated in the ventricles, the latter, as in the cases related in connection with our own, and likewise by Ruppius, in Meissner's *Forschungen*, vol. iii., p. 240, may together form one huge cavity; and the cerebral mass around the ventricles, especially towards the top of the head, may, as stated by Rokitansky, and as observed in our own case, be so attenuated as scarcely to measure a line in thickness.

The substance of the brain is often compressed and atrophied, and occasionally it is lacerated at various points. Sometimes it becomes so expanded and so attenuated as to be with difficulty recognized. In some cases, doubtless, there is a close alliance between congenital hydrocephalus and hemicephalus, there being a decided arrest of development in the organum. "I believe," says Rokitansky, "that the really essential part of congenital hydrocephalus—that which arrests the development of the brain—is the affection of the ependyma; that, in proportion to the degree to which the hydrocephalus has advanced, and according to the period

of fœtal life at which it commenced, it does, in various manner, and to different extent, arrest the development of the brain, and occasion monstrosity of it, and so far contains the ground of its alliance with hemicephalus, hydrencephalocele, singleness of the cerebrum (cyclopia), &c. (*Op. cit.*, p. 363.)

Fig. 2.

The diagnosis of hydrocephalus, though generally, is not always, unattended with difficulties. For example, in some cases the dimensions of the head, as in the cases observed by Gall, Gölis, Breschet, and Baron, are sometimes less than natural; and then, if the cranium be of unusual size, the latter may be owing to an hypertrophy of the brain. If paracentesis is ever justifiable in cases of hydrocephalus, in hypertrophy of the brain, it can only be productive of mischievous results.* Fig. 2 represents the head of a child some

* Dean Swift, to use his own words,

"Gave the little wealth he had
To build a house for fools and mad," &c.

And in this same "house" in Dublin, about a century since, several insane

5 years of age, in which case we were consulted as to the propriety of an operation. From the history of the case, we learned that the head had commenced to grow rapidly shortly after birth, and that the child had never been able to sit or stand erect. Every portion of the cranium was of stony hardness, and with no amount of pressure with the fingers could we produce the slightest indentation. The patient was frequently affected with convulsions and other symptoms of cerebral disturbance, though nutrition was perfect, and the child fat and hearty. He constantly remained in the horizontal position with his head thrown back. Believing the case to be one of hypertrophy, not only of the brain, but of the bones of the cranium, we declined any interference.

In the *Brit. For. Med. Chir. Review*, April, 1846, we find the following attempt by M. Mauthnier to establish the differential diagnosis of hypertrophy of the brain and chronic hydrocephalus:—

HYPERTROPHY OF THE BRAIN.	CHRONIC HYDROCEPHALUS.
1. The posterior part of the skull first presents an unnatural prominence.	1. The forehead is the first part to present an unnatural prominence; the altered direction of the eyes, and the great width of the sutures, are also characteristic.
2. Children lie horizontally, or throw the head back.	2. Children lie on the belly, with the head lower than the body, and buried in the pillow.
3. Face puffy, eyes inexpressive or staring, mouth half open.	3. Countenance etiolated, with an expression of premature old age.
4. Functional disturbance comes on gradually, not before the period of dentition or weaning, and consists at first in affection of the respiratory apparatus.	4. Functional disturbance begins early, and involves the cerebrum from the beginning.
5. Patient fat and leucophlegmatic.	5. Patient ill nourished, subject to rickets and tabes.

patients were trephined, on the supposition that their insanity was produced by the brain having become too large for the cranium!

In both affections the skull is commonly enlarged, but to the touch the sensation produced by pressure is widely different; in the one giving the idea of a solid, unyielding case, in the other of a wide separation of the bones, which in many cases are but imperfectly ossified. True, even in hypertrophy, where the progress of the disease has been very rapid, the sutures of the skull, in hypertrophy, may become loose and separate, particularly at the upper part of the head, but these cases are rare. Mr. Paget, in his *Lectures on Surgical Pathology*, Am. Ed., p. 64, remarks that it is very rarely that the due thickness of the skull is attained while its bones are engaged in the extension of their superficial area. "Hence, the weight of an hydrocephalic skull is not much, if at all, greater than that of the healthy one; a large parietal bone (No. 2 in the College Museum), measuring nine inches diagonally, weighs only four ounces, while the weight of an ordinary parietal bone is about three ounces." The extent of the skull, he asserts, is in a measure made up in some of these cases by the symmetrical placing of the wormian bones, thus showing "how the formative process, though thus thrown into straits and difficulties, yet conforms, both in growth and development, with the law of symmetry." This condition of the wormian bones existed in our own patient." Dr. Todd *(Cyclop. Anat. and Physiology)* observes that it is uncertain what the precise change is which the brain undergoes in hypertrophy, but it is probable that in this perverted nutrition, a new material is deposited between or in the proper anatomical elements of the brain, and that there is evidence of a similar condition of the cranial walls, the bones of the skull being preternaturally thick. The substance of the brain is universally firm, and cuts somewhat like cartilage.

To add to the difficulty connected with the differential diagnosis of chronic hydrocephalus and hypertrophy of the brain, these affections are found sometimes to coexist. Otto, indeed, asserted that hydrocephalus is occasionally cured by the supervention of hypertrophy of the brain, but

upon this point Rokitansky observes (*op. cit.*, p. 359),—"I believe, further, that the hydrocephalus (the hydrocephalic process) may itself sometimes give the first impulse to hypertrophy of the brain; but that any compensation for or cure of hydrocephalus is effected by hypertrophy, appears to be altogether problematical. Such an opinion is founded upon the fact, that in some large skulls of hydrocephalic shape, the brain exceeds the normal size and weight. But I believe that these are cases in which the hypertrophy, having taken place in childhood, has continued ever since; and that belief is confirmed by the resemblance, in shape, which subsists between the skull in hypertrophy and the hydrocephalic skull, as well as by the difficulty which the similarity in the symptoms of hypertrophy and hydrocephalus imposes, upon our determining positively what disease of the brain did exist in childhood. So far as I am aware, the morbid increase in the volume of the brain in hydrocephalus, as well as its normal growth, takes place always in the neighborhood of the enlarged ventricles; it is a peripheral deposition around them; and the skull goes on increasing in size to whatever extent its closure may be prevented by the hydrocephalus."

The skull of Sir Walter Scott was found much thinner than natural after death, and this was supposed to have been caused by cerebral hypertrophy, although the immediate cause of his death was ramollissement of the corpus striatum, producing hemiplegia.

Dr. Forry, the original editor of the *New-York Journal of Medicine*, died Nov. 24th, 1844, from hypertrophy and induration of the brain. For some months before his death he suffered from epilepsy and other severe cerebral disturbance. The anterior and posterior portions of the skull, corresponding to the hypertrophied cerebral substance, were evidently thinned. Long-continued vascular excitement may lead both to hypertrophy and effusion. Dean Swift, who lived like a madman, and expired "a driveller and a fool," is said to have been temperate in early life, yet, by his

intemperance in after years, he produced the hypertrophy of the brain and the effusion within the cranial cavity which, even at the age of 78, caused his death. Up to 1742, when he was 75 years of age, he showed no symptoms whatever of mental disease, beyond the ordinary decay of nature, nor did he have anything like epileptic attacks or general convulsions until some 36 hours before his death, yet we are informed (*Works of Swift*, Dub., Faulkner, 1763, vol. ii., p. 261) that Mr. Whiteway, who examined the body, "found much water in the brain." The frontal region of the cranium was thickened, flattened, unusually smooth and hard in some places, whilst in others it was thinned and roughened. At some points in the occipital fossae, the supraorbital plates, &c., the skull was so thin as to be transparent. (*Vide* Mr. Wilde's Report, &c., *Dub. Journ. Med. Science*, May and August, 1847.)

Hydrocephalus, therefore, is not a disease confined to any particular age, as is proved by the case reported by Prof. Vrolik, and that of the Dean, just mentioned. Besides these cases, Dr. West refers to another, in which the patient lived to 29 years of age; Dr. Baillie to one of 56 years, whilst Gölis mentions three in which it came on in old age, two of these patients having been upwards of 70 years old. Of course the changes produced upon the skull by chronic hydrocephalus, and hypertrophy of the brain, must vary according to the period of life at which these affections commence. In early life, as in Fig. 2, the cranial bones partake of the hypertrophied action of the brain, and becomes thickened as it expands. In adult life, the effect is different, the bones becoming thinner from the pressure, as seen in the skulls of Sir Walter Scott, Dean Swift, and Dr. Forry. But we have neither time nor space to dwell longer upon this part of the subject, nor could we do so with profit to the reader; for, from among all the writers to which we have been able to refer, we have not succeeded in collecting the elements by which an absolute differential diagnosis in all these cases can be established.

It is not our purpose to discuss the various methods of treatment which have been adopted in chronic hydrocephalus, but shall confine our remarks to puncture of the cranium. The Rev. Mr. Stevens has the credit of being the first to propose trepanning the cranium for hydrocephalus, and this was in the case of Dean Swift, who died in 1745. From Mr. Wilde's report of the Dean's case, to which we have already alluded, we learn that up to 1742, three years before the Dean's death, there were no symptoms of mental disease; and it was not until some 36 hours before his death, that he suffered from epileptic attacks and general convulsions. Conquently we may assume that it was in 1845 that the Rev. Mr. Stephens *proposed* this operation. Dionis, is his *Cours d'Opérations de Chirurgie*, 3d ed., 1736, has the following observations:

"Toutes les espèces d'hydrocéphale demandent la main du chirurgien pour donner issue aux eaux qui font la maladie. Les anciens appliquoient deux cautères potentiels, l'un sur le commencement de la suture sagittale, et l'autre sur la pointe de la suture lambdoïde; les escarres étant tombées, ils laissent sortir la lymphe par ces deux ouvertures, etc. Je suis plûtot pour les scarifications aux parties déclivés de la tête, par où les eaux, dont elle est abreuvée, peuvent suivre," etc.

He then refers to a case of congenital hydrocephalus, which he cured by this method of treatment. In the *Philosophical Transactions*, vol. xlvii., there is the report of a case in which Le Cat punctured the head for hydrocephalus. The operation was performed on the 23d October, 1744. A trocar with a canula much shorter than ordinary was used. On the upper part of the canula were two circles, each fastened to a different piece, so made as to screw on each other. The circles were somewhat concave on their surfaces, so as reciprocally to correspond, their circumferences touching while there remained a tolerable vacuity towards their centre. A circular piece of plaster, with a hole in its centre, was then applied to the lower circle, the screw of which

passed through the hole of the plaster. The object of this arrangement was to prevent the trocar from penetrating too deeply. The trocar and canula were thrust up to the circles and plaster, which was made adherent to the scalp, after which the trocar was withdrawn, when 4 or 5 ounces of serosity, of a brownish white, "or the color of pale white wine," and somewhat foul, was allowed to issue. This was on the 23d October. On the 24th, he unstopped the canula, and drew off the same quantity. On the 25th, "the infant was ill," for which reason he was not disturbed on that day. On the 26th, he was better, and 5 ounces more were withdrawn. Tuesday he was suffered to rest. Whenever the fluid was withdrawn, the head was bound with a strong bandage. The child died on the night of the 27th. The brain was thin, expanded, in contact with the dura mater, forming a kind of thin sack filled with water. Both lateral ventricles were excessively dilated, and but slight traces of the pineal gland, choroid plexus, remained.

Dr. Remmet, of Plymouth, E., operated in 1778, and 80 ounces of fluid were discharged at five different operations. The child died on the seventeenth day.

In *Van Swieten's Commentaries*, vol. xii., p. 248, we find that Petit expressed his regret that all the patients who had been subjected to this operation died. He believed that if a large quantity of water should be drawn off, the patient must die in four or five hours after the discharge; and even if less should be removed, they would still die, though not so speedily, surviving, perhaps, the operation some forty hours, but never longer than this period.

The operation was condemned by Heister, Boerhaave, De la Motte, Paré, Portal, Richter, Gölis, Breschet, Boyer, Dupuytren, Physick. Among the modern opponents of this proceeding we have found none more decided than Dr. Battersby. In his very elaborate paper published in the *Edinburgh Medical and Surgical Journal*, July, 1850, he has most thoroughly entered into the examination of the pathology of this disease, and he declares that all the evidence

thus far derived from morbid anatomy, as well as from the statistics collected upon the subject, goes to prove that puncture in chronic hydrocephalus is a useless and unjustifiable operation. In abdominal dropsies, as well as in hydrocele of the tunica vaginalis testis, he asserts, the simple withdrawal of the fluid is seldom sufficient to effect a cure; and if, in cases like these, he adds, where the containing parts naturally return to their proper position after the fluid is evacuated, it would be absurd to expect that dropsy of the brain, where the parts cannot reassume their normal position, should be cured by paracentesis of the head. The operation he regards as attended with danger, the cases reported showing that puncture is sometimes followed by an almost immediate aggravation of the cerebral symptoms, and by death. Another objection urged by him is that the fluid soon collects again, and even if relief be afforded by the first operation, it is less marked in the second, the quantity of fluid even increasing with its repetition. With this increase in the dimensions of the head, the body becomes emaciated; and death takes place from exhaustion, coma, or convulsions. The number of cases in which the operation has been performed is sufficient to settle the question of its value as a *curative* agent; and, while the statistics bear unfavorably upon it in this light, there can be no question that, as a palliative measure, the surgeon may not unfrequently be justified in resorting to it. Dr. Charles West published in the *London Medical Gazette*, April, 1842, "*An Inquiry into the Results of Puncture of the Head, in cases of Chronic Hydrocephalus*," and so completely has he exhausted the subject up to that time, that we are compelled to avail ourselves of his labors. His Table comprises 56 cases, and we have added such as we have been able to find reported since the date of his publication, a period of twelve years.

No.	Sex.	Age.	Duration of disease.	Symptoms before Puncture.	Size of the Head.	Number and date of Punctures.	Quantity of Fluid in lbs. and ounces.
1	—	b'tween 11 & 12 years	—	Came on in consequence of a fall; head enlarged to a third beyond natural size, and parietal bones opened so as to allow fluctuation to be felt. These symptoms came on three months after the fall.	A third larger than natural	One	lbvj. of water drained away in 20 days.
2	F.	4 m. 11 days	began in 6th weeek.	Began with fits and enlargement of head. Bowels torpid; strabismus; child had an idiotic look.	Apparently double.	Eighteen Dec 10. 17. 25. 28. 31. Jan. 5. 9. 14. 19. 23. 28. Feb. 4. 8. 18. 25. Mar. 3. 6. 10.	oz. 1-8 + 5 + 4 + 5 1-2 + 4 + 4 + 7 + 7 1-2 + 7 + 2 6-8 + 10 + 3 1-2 + 0 + 0 + 3 + 3 + 4 + 4 = 76 1-4.
3	F.	12 wks.	began a few days after birth	General health good, but bowels irregular; strabismus, rolling of the eyes.	23 inches in circumference.	Four August 25. Sept. 4 15. Oct. 5.	oz. 3 + 5 1-2 + 1 + 9 1-2 = 19.
4	M.	4 mths.	head large at birth	Child healthy, cheerful, not emaciated. The fluid was supposed to be external to the ventricles.	18 1-2 inches in circumference.	Eleven Jan. 8. 15. 23. Feb. 19. Mar. 15. 19. Ap. 19. 27. May 5. 17. Ju. 23.	oz. 1 1-2 + 2 + 2 + 2 1-4 + 1 1-2 + 2 1-4 + 1 1-2 + 1 1-2 + 2 1-4 + 2 1-2 + 2 = 21 1-4
5	—	14 m.	—	—	—	Nine within 4 months	Ojss. by first puncture, less by subsequent ones.
6	—	10 m.	excited from birth	Child very ill; pupils dilated. States that inflammation of the brain and its membranes existed, but does not mention a single symptom.	—	One	oz. 24.
7	F.	20 m.	began in 14th month	Head had been gradually enlarging for half a year.	—	One	oz. 2, but a large quantity, supposed to be Oij. drained away.
8	M.	5 mths.	congenital	Hiccough and vomiting; eyes heavy, somewhat convulsed.	Head of enormous size from birth.	Two beginning of Aug. Sept. 3	oz. 12 + 12 = 24.
9	F.	—	—	—	—	Five	oz. 55.
10	F.	—	—	—	—	Three	oz. 26.
11	F.	—	—	—	—	One	oz. 13.
12	F.	—	—	—	—	One	oz. 9.
13	M.	—	—	—	—	One	oz. 6.
14	F.	—	—	—	—	Three	oz. 31 1-2.
15	M.	—	—	—	—	Two	oz. 14.
16	M.	—	—	—	—	One	oz. 9.

Subsequent Progress.	Date of Report.	Authorities.
"Patent was saved."	—	Monroe on Hydrocephalus, p. 146, quotes the case from Prof. Rossi.
The fluid removed was clear first, but, on the 8th and 9th punctures, was of a darker color and thicker consistence, but regained its transparency at subsequent operations. The immediate effects of the puncture were never serious. Slight febrile symptoms, and occasional vomiting, and fretfulness, occurred at different periods, but fits only once, just before the sixth operation. The ossification of the head proceeded so that the situation of the first puncture became ossified.	Ninety days after first puncture, day of last puncture. Case then going on favorably.	Mr. Lizars, Ed. Medical and Surg. Journal, vol. xvii. p. 243.
The fluid was serous, on the second time was turbid and mixed with flakes of lumph. Slight fever after first, not after others. Ossification advanced; head diminished; child went on well; obscure fluctuation remained three weeks after last puncture. Calomel was then given, so as to affect the mouth.	Four months after last puncture, then stout, healthy, and very large of her age. Head ossified, except anterior fontanelle, and four inches less in circumference.	Mr. Russell. Ed. Medical and Surg. Journal, vol. xxxviii. p. 43.
After each operation there was great faintness, pallor, and failing of the heart's action during several hours. Great restlessness followed for a night or two after each operation.	Seventeen months after last puncture, child was healthy and head measured 18 3-4 inches in circumference.	Graefe. Graefe and Walther's Journal, Bd. xv. S. 348.
Great improvement followed the first puncture, the others left the child in a very satisfactory state.	Died of pneumonia more than a year afterwards.	Dr. Fourcade, Lancette Francaise, vol. iv. No. 47, p. 188, reports from recollection, case operated on by Dr. Bédor.
Iodide of potassium ointment employed; calomel and mild aperients given. "Though the little sufferer was for some time in a precarious state, he did recover, and is now a very fine boy, never having had the slightest return of the complaint."	—	Mr. Marsh, Medical Gazette, vol. xvii. p. 985.
One convulsion followed the puncture, and afterwards other symptoms of meningeal irritation.	Two and a half years afterwards health and intellect good.	
Continued weekly during the day of puncture, but more lively than before, and for some time after the intensity of all the former symptoms diminished. A month after it was found necessaary to repeat the puncture.	Nearly eight years after, head then too large, but not larger than before the operation. Health good.	Dr. Conquest, Lancet, March 17, 1838; and Med. Gaz., vol. xxi. p. 967.
—	Five years after, head 22 inches round; ossification complete. except posterior fontanelle, and two openings in coronal suture. Health good, remarkably shrewd.	
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No.	Sex.	Age	Duration of disease.	Symptoms before Puncture.	Size of the Head.	No. of Punctures.	Quantity of Fluid.	Immedi'te Effect.
1	M.	9 m.	Began at 3d month	Sucked well, but was emaciated.	At 8th month larger than head of a man.	One	1lb. Fluid continued to drain away afterwards.	—
2	M.	3 m.	Began in 7th week	Well nourished, but fretful.	Sutures separated.	Three	5 + 5 + 5 = 15	—
3	—	3 m.	—	—	Very large.	One	—	Bore operation well.
4	—	2 m.	Congenital.	Healthy and strong: head had much increased in size; eyes very prominent.	—	Five	10 + 12 + 14 + 12 + 32 = 80	—
5	M.	2 y.	Congenital.	Well.	25 inches round at 6th month.	One	—	—
6	F.	5 m.	Noticed at 5th month.	Indisposed for three weeks with crying and screaming. Pupils immovable.	Very large, fluctuating.	Six	$9\frac{1}{2} + 9\frac{1}{2} + 6 + \frac{1}{4} + 2\frac{1}{2} + 1\frac{1}{2} = 29\frac{1}{4}$	Sickness and vomiting after 2d; 4th puncture made in the fontanelle; $4\frac{1}{2}$ oz. of blood escaped, and child seemed like to die.
7	M.	9 m. 20 d	Congenital.	Good, and continued so, notwithstanding fruitless employment of medicines; head hot, appetite craving.	23 inches round above tips of ears.	Ten	$4\frac{1}{2} + \frac{1}{4} + 5 + 3 + 3\frac{1}{2} + 3 + 3\frac{3}{8} + 3\frac{1}{4} + 4 + 2 = 40$.	No striking effect.
8	M.	9 m.	Congenital.	Child had a spina bifida, but health good.	27 inches round	Three	10 + 16 + 14 = 40	—
9	F.	4 m.	Congenital.	General health good; head had progressively enlarged.	24 inches round.	Eight	12 + 12 + 12 + 9 + 12 + 3 + 9 + 12 = 81.	Very slight except after 5th puncture, when faintness was produced.
10	—	6 m.	Six or seven weeks after birth.	Always unquiet, but tolerable health to 5th week; became gradually emaciated; bowels irregular; constant crying, no sleep.	23 inches round.	1, but wound opened twice a day for sev'ral days.	116 in course of 8 days.	—

Subsequent Progess.	Date of Death.	Condition of the Brain after Death.	Authorities.
Child sank.	36 hours after the puncture.	—	Fabricius Hildanus, Observ. Chirurg. cent. iii. obs 17.
Well for two days, then taken ill: died on evening of 4th day.	84 hours after 1st, 36 after last puncture.	Excessive dilatation of ventricles; atrophy of pineal gland; very little trace of choroid plexuses.	Le Cat, Philosoph. Trans. v xlvii. p. 257.
—	Day after the puncture.	Fluid between cranium and dura mater.	La Motte, Traité complet de Chirurgie, tome i. obs. 115.
After third puncture, head reduced to natural size; after 1st week, head swelled again. Exhaustion came on 3 weeks after 5th puncture; death in ten days.	3 m'ths 9 days after 1st, 31 days after last puncture.	Cavity of brain full of enormous quantity of clear water; scarcely any brain found, but only medulla oblongata, and a small quantity of brain behind the orbits.	Dr. Remmet, Edin. Med. Comment. vol. vi. part 4
—	16 hours after puncture.	Two pounds of clear fluid contained in brain, in cysts, with vascular coats: cerebellum around fourth ventricle hard; cura cerebri ulcerated.	Dr. A. Monroe, Morbid Anatomy of the Brain, vol. i. p. 11.
More lively; convulsions; and hemiphlegia affecting right side, on third day after first puncture, ceasing in course of one day. Diarrhœa for some days. Coma before second and third punctures; relieved by the operation. Seemed bettter on day of sixth puncture; fits on following day; tranquil death soon after.	37 days after 1st, 1 day after last puncture.	Two pounds of sero-sanguineous fluid in ventricles; walls of ventricles very thin; brain soft; coagulum size of a hazel-nut in posterior corner of left lateral ventricle.	Mr. R. Brown, Med. and Phys. Journal, vol. li. p. 102.
Slight improvement followed each puncture. Continued well, except erysipelas of face, till day of last puncture; then, convulsions returning frequently, child wasting till death.	84 days after 1st, 11 after last puncture.	Dura mater thickened; pia mater inflamed; cerebral substance very thin, lined by false membrane; no trace of corpus striatum, callosum, etc.; bag of cerebrum divided into cells by membranous bands, contained 35 ozs. of fluid; cerebellum firm.	Mr. Money, Med. and Phys. Journ., vol. lii. p. 462.
—	30 days after 1st puncture, 9 after last.	—	Mr. Grey, Med. and Phys. Journ., vol. liv. p. 204.
Health good for a few days; considerable exhaustion after 2d puncture. On 5th puncture, 6 weeks after 1st, situation of original puncture ossified. Two convulsions before 7th puncture, again after 8th.	110 days after 1st, 8 after last puncture.	Fluid between dura and pia mater; the former thickened, but with no signs of acute inflammation; brain nearly all absorbed, not larger than a hen's egg, soft, and parts not distinguishable.	Dr. Glover, Philadelphia Journ. of Med. and Phys. Sciences, vol. ii. p. 159.
Seemed going on well, though fluid re-collected; head greatly diminished in size. sutures, which had been 3 inches across, came into apposition. On the 9th day, convulsions, coma, death.	9th day from the puncture.	Membranes gangrenous for several inches round puncture, contained 4 pounds of turbid, fœtid fluid; whole upper part of brain disappeared; some at base, like pons varolii.	Dr. Whitmore, American Me, Recorder, July, 1821.

No.	Sex.	Age	Duration of Disease.	Symptoms before Puncture.	Size of the Head.	No. of Punctures	Quantity of Fluid.	Immedi'te Effect.
11	M.	7 m.	Began about a month after birth.	Fever; screaming; squinting at 3d week; in ten days enlargement of head, which increased; other symptoms abated.	21½ inches round.	One	6	Vomiting soon after.
12	M.	8 m.	Began in 3d month	Sickly from birth; convulsions at two months; emaciation; constant crying; strabismus.	21½ inches round	Five	14½ + 3½ + 7 + 7 + 16 47 6-8	Uneasy during 1st, sensible of pain afterwards; uneasy and occasionally convulsed after 5th.
13	M.	11 w	Began in 6th week	Always fretful, throve till 6th week, then wasted; head swelled. No squinting.	Fluctuation in head distinct.	Six	6 by first, afterwards + 36 = 42	No inconvenience; sensible improvement.
14	M.	5 m.	Began at 2 months	Good for two months, but head always inclined to side; then swelling of head, fits of crying, cough, and emaciation. No vomiting or convulsions.	20½ inches in circumference.	One	11	None; head much collapsed; vomited same evening.
15	—	5 w.	—	—	Supposed to contain 2 to 3 pints.	Five	4 + 3 + 4 + 4 + 4 = 19	—
16	—	6½ m	Began in 4th m'th	Well nourished: general symptoms very slight.	—	One	37	Brain protruded through 1st puncture (with a lancet), which was therefore repeated.
17	.	16 m	Began at end of 3d month	Began with convulsions; health then good until dentition began, then lost motion of left arm and leg; had fits with each tooth, and occasional strabismus.	26 inches round.	One	2½, and more drained from wound.	Considerable collapse.
18	F.	16 m	Began at 4th m'th.	Health bad; pupils dilated; insensible to light; coma for several months; occasional convulsions.	—	One	20	Cold, faint, lips livid, requiring strong stimulants.
19	F.	6 m. 3 w.	Began at 5th m'th.	Great strabismus.	18 inches in circumference.	Four	9 + 2 + 3 + 2½ = 16½	No suffering.

Subsequent Progress.	Date of Death.	Condition of the Brain after Death.	Authorities.
First night restless; next night better; screaming 58 hours after, followed by fits; and death, in fit, 14 hours after.	72 hours after puncture.	No trace of inflammation; brain very soft; two transparent sacs in left ventricle, one in right communicating with third and fourth; they were smooth and tough, attached to brain at under, unconnected at upper surface; nates and testes formed a tumor, containing one drachm of pus; lower parts of brain healthy.	Mr. Hood, Ed. Med. Surg. Jour., vol. xvii. p. 510, Oct. 1821.
Slight convulsions on night after 1st puncture; improvement, less strabismus, increased ossification; cried much after 4th convulsions, and death 3 days after 5th.	51 days after 1st puncture, 3 after last.	No sign of inflammation; fluid in ventricles; brain greatly expanded; cerebellum healthy.	Dr. Freckelton, Ed. Med. Surg. Jour., vol. xvii. p. 240.
Relief after each puncture; a fortnight after last, water ceased to accumulate. No ossification of skull.	11 weeks after 1st puncture, 3 after last.	No sign of recent inflammation; 2½ lbs. of fluid in sac of arachnoid; atrophy of cerebrum which was not larger than a bean.	Mr. J. Sym, Ed. Med. Surg. Jour., vol. xxiv. p. 295.
Went on well till 3d day, head being 2½ inches smaller. On 3d day great restlessness, vomiting, rigidity of one arm, convulsions; death on 4th day.	87 hours after the puncture.	No inflammation of brain or its membranes; ventricles contained yellowish white fluid, like scropurulent fluid and water, with albuminous flakes; some softening of ventricles.	Dr. J. Alison, Ed. Med. Surg. Jour., vol. xliii. p. 359.
—	16 weeks after 1st, 5 weeks after last operation.	—	Mr. Callaway, as reported by Oppenheim, Rust's Mag., v. xxiv. p. 77
Pretty well, but somewhat excited 1st day; head filled again between 3d and 6th day; on 7th, a gush of fluid from situation of 1st puncture, followed by convulsions and involuntary dischage of urine and fæces.	9th day after the puncture.	—	Dr. Roechling, Hufeland's Jour., Aug. 1826, p. 114.
A little improved 1st night, pretty well till third day; then violent convulsions and death.	4th day after the puncture.	Brain bloodless; 2 pounds of fluid in ventricles; great thinning of their walls, of right especially, which formed a mere membranous bag, and was in parts of consistence of cream; parts at floor of left ventricle barely recognizable; at floor of right undistinguishable; cerebellum and base of brain healthy.	Dr. S. Hall, Med. Gaz., vol. vi. p. 334.
Slight fever for a few days, then seemed better. In 10 days water began to accumulate. In 1 month and 3 days symptoms of nervous debility, in 3 days more painless death	5 weeks after the puncture.	No trace of inflammation; great accumulation of fluid in the ventricles.	Mr. Marsden, Lancet, Feb. 12, 1831. p. 648.
Vomiting on 2d and 3d day, fever on 4th, coma on 5th, convulsions on 6th.	6 days after puncture.	One pound of fluid in cranium; puncture had not penetrated the brain; dura mater adherent to skull; brain soft and very vascular; great distention of lateral ventricles with fluid; no inflammation about puncture.	Oppenheim, Rust's Mag. v. xxiv p. 89.

No.	Sex.	Age	Duration of Disease.	Symptoms before Puncture.	Size of the Head.	No. of Punctures.	Quantity of Fluid.	Immedi'te Effect.
20	—	15w.	—	—	—	One	10	-
21	—	9 m.	—	Great emaciation.	30 in hes in circumference.	One	10	--
22	—	2 m.	Congenital.	Health tolerably good —child intelligent.	23 inches in circumference.	Two	28	Improved appearance.
23	M.	4 m.	Began at 1 month.	Good, except frequent convulsions.	21 inches in circumference.	Seven	1½ + 2 + 6 + 11 + 15 + 12½ + 14=63.	None.
24	—	3 m.	Began at 1 month.	Health good, but bowels costive; had spasms when a week old, ceased after 3 weeks, when head suddenly enlarged.	—	Four	14 + 17 + 14 + 13½=58½.	Slight hæmorrhage from a vessel at 3d puncture.
25	M.	7 m 12 d.	Began at 2d month	Small-pox at 5th week; enlargment of head from 2d month; at 5th month blind; oscillation of eyes; starting and screaming, afterwards fits.	22½ inches round at 5th month.	Ten	4 + 5 + 6 + 7 + 12 + 16 + 12 + 28 + 42 + 20=153	After three of the punctures, faint and pale, and once vomited. Nothingafter any of the others.
26	F.	10 d.	Congenital.	Good at birth; at end of ten days head hot; child fretful; bowels disordered.	Head at birth twice natural size.	Two	10 + 8=18	After 1st puncture cold, faint, as though about to die; state after 2d not mentioned.
27	M.	8 m.	Began at end of 4th m'th.	Health quite good up to 10th week, even now tolerably good; bowels regular; well nourished; eyes constantly rolling.	22½ inches in circumference.	Four	20 + 23 + 22 19=84	No peculiar effect.

Subsequent Progress.	Date of Death.	Condition of the Brain after Death.	Authorities.
—	—	All the ventricles formed but one large cavity, covered by but very little brain.	Ruppius, in Meissner's Forschungen, vol. iii. p. 240.
—	In a few days after the puncture.	—	Meissner, Die Kinderkrankheiten, vol. ii. p. 187.
Exhalat'n of sense of hearing, then improvement for 2 or 3 days; re-accumulation of fluid in a fortnight, gradual sinking after 2d puncture.	3 weeks after 1st puncture, 1 week after last.	Great vascularity of the membranes; softening of the brain; accumulation of fluid in the ventricles.	Mr. F. Cooper, Lancet, June 27, 1835, p. 405.
Convulsions ceased a few hours after 1st puncture; returned slightly before 3d and 5th. Health good till day before last puncture, then stupor; relieved for a time by puncture; 2 days after, quiet death.	115 days after 1st, 2 after last puncture.	Membranes pale, bloodless; septum lucidum torn; lateral ventricles formed one large sac, lined by thick flakes of matter, like pus or mucus.	Prof. L. A. Dugas, Amer. Journ. of Med. Sciences, vol. xx. p. 536.
Convulsions on 5th day; continued enlargement of head after each puncture; occasional convulsions, followed at length by coma and death.	62 days after 1st, 11 after last operation.	Fluid in ventricles; great thinning of the brain; hole through falx and tentorium; cerebellum healthy.	Dr. J. B. Withridge, Am. Jour. of Med. Sciences, vol. xx. p. 538.
Improvement for 2 months, and progressing ossification; then improvement ceased, and head became quite as large as ever. Convulsions came on, but ceased some weeks, till day before death, and child died in a fit.	131 days after 1st puncture, 2 days after last.	Arachnoid engorged; fluid in all three ventricles; brain very soft; lymph at is base.	Dr. J. R. Smyth, Med. Gaz. vol. xxv. p. 83.
After 1st puncture, seemed improved; water re-accumulated at end of a week; after 2d, no improvement; at end of a fortnight after, head as large as before. Parents would not permit its repetition. Child wasted; died convulsed.	6 months 5 days after 1st, 5 months 12 days after last operation.	Fluid under dura mater; cerebrum so flattened that parts were undistinguishable.	Mr. Armstrong, Med. Gaz. v. xxvi. p. 226.
Occasional vomiting; slight convulsions; head rapidly regained its size. 14 days after last puncture, moaning, crying, contractions of limbs, faintness, and difficult breathing came on.	7 weeks 3 days after 1st, 15 days after last operation.	Fluid within the membranes; left hemisphere almost totally destroyed, right greatly compressed; optic nerves diseased; left olfactory destroyed; right nearly so; cerebellum healthy.	Dr. Kilgour, Ed. Med. Surg. Jour., vol. liii. p. 365.

No.	Sex.	Age	Duration of Disease.	Symptoms before Puncture.	Size of the head.	No. of Punctures.	Quantity of Fluid.	Immediate Effect.
28	F.	9 m	Began in 3d month	Healthy; in 15th week able to hold up its head, though very large; cried occasionally; continued well to 9th month, but head then too big to move.	21½ inches in circumference.	One	4, much drained away.	½ oz. of blood escaped; 4 d'ys after, on passing a probe, 4 oz. of water.
29	—	8 m	Began at 4th m'th	Screamed very often; slight convulsions; occasional vomiting; distortion of eyes downwards.	—	Two	4 + 3=7	Improved appearance followed immediately.
30	—	7 m	Began at 2d month	Good health.	19 1-6 inchs in circumference.	Two	20 + 28½=48½	Pale, cried slightly after 1st; pale, did not cry after second.
31	F.	12 w 1 d	Began in 3d week.	Fits of crying a fortnight after birth continued to recur, but without convulsions or strabismus.	16½ inches in circumference.	Five	12 + 12+ 5 + 8 + 6=53	Crying ceased; child seemed more comfortable.
32	M.	—	—	—	—	Five	48½	—
33	M.	—	—	—	—	Four	45	—
34	M.	—	—	—	—	Two	20	—
35	M.	—	—	—	—	One	8	—
36	M.	—	—	—	—	Two	22	—
37	M.	—	—	—	—	Two	17	—
38	F.	—	—	—	—	One	7½	—
39	F.	—	—	—	—	Four	33	—
40	M.	15 m	Began at 5th m'th.	Inward fits from birth; emaciation at a fortnight; increase of head and fits at 5 mo.; general health improved until 14 months, then fits more frequent, and child wasted more; but appetite very good.	26 inches in circumference.	One	16	— Cried much; slight fit immediately after.
41	—	6 m	—	Comatose, moaning, pupils dilated, insensible; no strabismus.	20 inches round.	Five	10 + 10 +10+ 10 + 10=50	Aroused in a marked manner after each operation.
42	M.	17 m	15 m.	Blind; pupils natural size, and sensitive to light; constant rolling of eyes; fluctuation of head; veins distended.	27½ inches round, 18½ over vertex from ear to ear.	One	20	No change.

Subsequent Progress.	Date of Death.	Condition of the Brain after Death.	Authorities.
On day after the escape of the fluid, slight convulsions, eyes less distorted, but child began to sink, whined, then threw its arms about.	6th day after puncture.	Some congestion of membranes; near puncture; brain quite white, very soft; ventricles immensely distended; cerebral substance seemed macerated, infiltrated with water; parts in ventricles undistinguishable; nerves at base soft; cerebellum large, soft; cavity in its centre; no trace of arbor vitæ.	Dr. Schaeffer, Casper's Wochenschrift, Aug. 19, 1837.
On evening of 4th day after first tapping, child grew dull; respiration hurried, and death took place before midnight.	4th day after 1st, 3d after 2d puncture.		Dr. Watson in Tweedie's Lib. of Med. p. 147.
After 2d puncture, cerebral symptoms came on, head being smaller. Head regained size in 10 days after 1st puncture.	24 days after 1st, 24 after 2d puncture.	-	Malgaigne, l'Expérience, Nov. 19, 1840.
Occasional fits for ten days after 2d puncture; then frequent screaming, and increasing weekness, without fits, till 2 days before death, when theyreturned frequently.	15 weeks after 1st puncture, 5 w'ks after last.	Twenty-nine ounces of clear fluid in ventricles, which were lined by a brownish mucus; septum lucidum thickened; small tubercle at decussation of optic nerves.	Dr. Coldstream, Edin. Monthly Journ. of Med. Sci. April, 1841.
—	—	—	Dr. Conquest, Lancet, March 17, 1838; and Med. Gaz. vol. xxi. p. 967.
Daily fits for 4 days, with more sluggish condition than before. In 7 days, head as large as before the puncture, to the repetition of which parents would not consent; refused food; diarrhœa for 7 days; emaciation, increased weakness; death.	17 days after the puncture.	Seventy-five ounces of fluid in the ventricles, and infiltrated into brain, which was split up into layers forming several distinct pouches; the walls of these pouches were not formed by false membrane, but were all continuous with the corpus callosum, into which their fibres might be traced; cerebral substance at base had a jelly-like appearance; optic nerves much spread out; fluid infiltrated between fibres of cerebellum.	The writer.
Strapped head with adhesive plaster, fluid rapidly regenerated, no change of symptom.	5 weeks after 1st, soon after last operation.	Convolutions flattened; cerebral substance half an inch thick; pint of clear fluid in ventricles; no signs of inflammation from operation.	Dr. Parkman, Am. Journ. Med. Sci., Oct. 1848.
Fluid continued to flow from wound; on 4th day was more restless; spasmodic closure of hands; head more tense.	6th day after operation.	Hemispheres mere sacs, the parieties being an inch thick; convolutions obliterated; 4 pints turbid serum in ventricles; cortical and medullary matter lost where most distension; cerebellum, pons varolii and mudulla oblongata natural.	Dr. Pepper, Quar. Sum. Trans. of Col. Phys. and Surg., Phila., vol. iii.

No.	Sex.	Age	Duration of Disease.	Symptoms before Puncture.	Size of Head.	No. of Punctures.	Quantity of Fluid.	Immed'e Effect.
43	—	8 y.	—	—	—	One	32	—
44	—	3 m	3 m.	Head hotter than natural; nursed well; wakefulness at night; aversion to light; axes of vision formed an angle of 90° from pressure of fluid.	27 inches round, 15 over vertex.	Two	8 + 14=22	—
45	—	5 m	Congenital.	—	—	Two	4 + 6½=10½	—
46	F.	4 m	Congenital.	Head diaphanous; eyes rolling; pupils dilated; slight strabismus; no convulsions.	29½ inches round, 19½ ov'r vertex.	One	8	Fulse free; appeared better.
47	—	—	Congenital.	Obstruct'd labor; punctured head.	—	One	32	—
48	—	12 y	—	—	—	Nine	4 to 40 each time = 143	—
49	F.	9 w	7 w.	Drowsiness; in other respects well.	19¾ inches in circumference. 8 between March and Aug.	—	89 ozs.	—
50	M.	9 m	8 m.	Vomiting and drowsiness.	24 inches in circumference.	One	9 ozs.	—

Subsequent Progress.	Date of Death.	Condition of the Brain after Death	Authorities.
Began to sink in a few hours.	36 hours after operation.	No injury to any part.	Mr. Taylor, Lon. Med. Gaz. 1850,
Applied compress and adhesive plaster; fluid continued to flow; bandage; urine more free; 12 days after operation child better, and continued to improve for about 6 weeks when fluid again began to collect; in two months 2nd operation, after which it failed gradually.	53 days after first puncture; 20 after last.	Strong marks of inflammation of meninges; brain a mere pulpy sac; with scarcely a trace remaining of parts usually found in cerebral dissections; cerebellum unaltered.	Dr. C. A. Lee, N. Y. Med. and Phys. Jour., vol. vi.
Went on favorably for several days; died comatose.	—	—	Mr. Chater, Prov. Med. and Surg. Journ., 1845.
Applied bandages; 2d day better; 3d day fever, head hot, convulsive movements; 4th day much better, no strabismus, movement of limbs and head free, no fever, appetite good, size of head diminished; 8th day improving markedly; took cold, died on 9th day of a bronchitis.	9 days after operation.	Fontanelles sunk; head 22½ inches round, 15½ over vertex; no signs of inflammation; cerebrum spread out like a sac, being ¼ of an inch thick, but of natural consistence; no convolutions; corpus callosum or septum lucidum found; base of brain normal.	Mr. Totlow, Lancet, p. 100, 1839.
Wound healed readily; child thrived for 23 days; had convulsions from re-accumulation of water.	23 days after operation.	No signs of inflammation; one quart of water in cranium.	Dr. Rose, Am. Med. Record, vol. 13.
Symptoms improved after 1st 6 operations; water rapidly re-collected each time in large quantities.	4 months after first operation	No marks of inflammation about wound.	Dr. Smyth, Miscel. Contribu. to Path. and Therap., 1844.
—	9 m'ths 1 w'k after 1st operation.	Lat. ventricles formed one cavity; absence of fornix, septum lucidum, corpus callosum and choroid plexus; corpora striata and optic thalami flattened; cerebellum soft; nerves all perfect.	Battersby.
—	6 days after operation.	Convolutions on upper surface obliterated; brain formed a large bag; central white parts absent, as well as corpus callosum, fornix, septum lucidum, fifth ventricle, and choroid plexus; optic thalami and corpora striata flattened, and of unnatural appearance; medulla oblongata, cerebellum, pons varolii, and crura cerebri, healthy and hard.	Battersby, Ed. Med. and Surg. Journ., vol. ii. 1850.

No.	Sex.	Age	Duration of Disease.	Symptoms before Puncture.	Size of the Head.	No. and Date of Punctures.	Quantity of Fluid in lbs and ounces.
51	M.	8 m	6 m.	Fretful and feverish; diarrhœa and costiveness alternately; finally squinting and convulsions.	—	One	℥viij of a reddish fl'id.
52	M.	14 m	6 m.	Tendency to coma; tremul'us eyelids; slow pulse; stertorous breathing; strabismus.	—	1, April 6.	℥xvi limpid.
53	—	—	—	Blindness; partial paralyses; face contorted; extremities placid.	23 inches round, 14 vertical.	Three	12 + 8 +

In relation to the first 16 cases in this table which are reported as successful, (and the same remarks are applicable to the three cases which we have added,) Dr. West very properly observes that chronic hydrocephalus is a disease usually slow in its progress, and intermittent in its advances, occasionally pausing for months, or even years, and then increasing without any evident cause; consequently, before any case be admitted as cured, it must be shown that a considerable time has elapsed since the operation, and that during this period the health of the patient has been perfectly good. The cases which he has collected he regards as affording but little encouragement to resort to it, as might be expected from the appearance frequently presented after death, as in many cases there exists serious organic disease or malformation of the brain itself, "though no symptom during life had betrayed the existence of a condition which mechanical interference could only aggravate."

Dr. Watson, on the other hand, employs very different language in reference to this operation. In his *Lectures*, p. 284, Am. Ed., he remarks: "He must have been a bold physician who first proposed to decant the water from the brain, by means of a perforation, made with a trocar, through the membrane of the fontanelle, through the membranes of the brain, and through even the expanded cerebral substance itself. But the success of the project has amply vindicated

Subsequent Progress.	Date of Report.	Authorities.
Blood oozed from nostrils for 24 hours; bandage; gave aperients and nourishing diet; former symptoms gradually disappeared.	Seven years.	Dr. Edward, Monthly Journ. Med. and Scien., 1846.
Left wound open, and about 4 pints fluid gradually drained off, with gradual contraction of head and closure of open spaces.	Four months.	Mr. Kitsell, Prov. Med and Surg. Journ., 1849.
Paralysis disappeared; countenance natural; head diminished; sight returned; strabismus ceased; regained her natural playfulness.	Several months after operation died of typhoid fever.	Dr. Howard, Trans. Med. Journ., 1852.

this happy audacity. Though denounced as useless and cruel by some high continental authorities, by Gölis and Richter especially, it furnishes one of the best of the few chances of safety to the patient. Of course, I mean ultimate safety, for the operation itself is attended with the present risk of accelerating the patient's death. We have to consider that, by performing the operation, we incur the danger of abbreviating the existence of a being whose life without it could scarcely be long continued, or capable of enjoyment, but then we afford some chance of a perfect cure. A speedy death, or an uncertain life of mental and bodily imbecility, or complete restoration—these are the three events to be looked at. Had I to decide the painful question in reference to one of my own children, I would accept the alternative of probable speedy death on the one hand, or possible complete recovery on the other."

Malgaigne, after examining a great number of facts bearing upon this question, comes to the conclusion: 1st, that the operation may be tried when the patient is from three to four months old, and the disease appears to be stationary; 2d, after this period, when the disease is evidently increasing and threatens the life of the patient. (*Bull de Thérapeutique*, 1840.)

Dr. Copland observes, "While, therefore, I so far agree

with those who argue for the operation, as to advise it to be tried after the measures I have detailed above have failed, yet I would not recommend its performance early in the disease: 1st, because medical treatment has then sometimes effected a cure, especially when the head has not been very greatly enlarged; and 2dly, because, when the fluid is in the ventricles, as it generally is in cases commencing after birth, a greater depth of brain must be penetrated to reach it at an early than at a later period." (*Dictionary of Practical Medicine*, vol. i., Am. Ed., p. 779.)

Dr. Charles A. Lee has advised a resort to puncture of the ventricles, even when to effect this object it is necessary to pass the instrument to a great depth. A puncture of the ventricles in cases like our own is not a matter of difficulty, as the distended ventricles formed together one vast cavity.

Dr. Joy, in the *Cyclopædia of Practical Medicine*, vol. ii., Lon. Ed., p. 478, thus expresses his opinion on the subject: "There are a few cases on record where it has appeared to effect a cure, and several where it has palliated the symptoms. In cautious hands, and where only a moderate quantity of water is drawn off at a time, it has rarely been attended with any danger. In cases where all other kinds of treatment have been tried without benefit, this is, perhaps, not altogether to be rejected."

Rilliet and Barthez, Barrier and Legendre sanction the operation only in cases of hydrocephalus arising from sanguineous effusion into the arachnoid cavity, a form of the disease by all authorities admitted to be rare. In cases of acquired chronic hydrocephalus, resulting from a cerebral tumor, or a profound alteration of the brain, they would not recommend it.

Mr. Fergusson regards the operation as worthy of trial, and relates several instances in which it has been performed by himself and his friends. He states that, although his own experience does not enable him to be very sanguine of great success from this proceeding, yet that which has been ob-

tained by others is, in his opinion, a sufficient sanction for a continuance of the practice in all "favorable-looking cases." (*Practical Surgery*, 3d Lon. Ed., p. 556.)

Dieffenbach is strongly opposed to the operation, having, during the earlier part of his professional career, had three unsuccessful cases. Although success may in some few cases have followed it, yet on the whole he is disposed to consider them as fortunate escapes, like those which have been recorded in which a sailor recovered after a ship's anchor had passed through his abdomen, or the shaft of a cabriolet had pierced the thorax of a coachman, &c., &c., upon which cures a surgeon has no right to calculate. (*Operative Chirurgie*, Zweiter Band, Leipzig. 1848, p. 9.)

Dr. Battersby states that he is acquainted with ten cases in which the operation has been unsuccessfully tried in Dublin, and there can be no doubt that a large number of fatal cases remain, and will ever remain unknown. We have been informed by Prof. Stevens Parker, Dr. Watson, and others in this city, of several cases in which the operation has not averted a fatal termination. Still, we feel persuaded that, in cases similar to our own, and for the end proposed in this case, a surgeon would be justified in resorting to it.

Having thus noticed the sentiments of some of the most prominent authorities as to the propriety of resorting to puncture in chronic hydrocephalus, we would remark, in connection with the cases collected by ourselves and appended to the table of Dr. West, that they do not materially affect the conclusions to which this distinguished physician had arrived. In our own case, the operation was not performed with the expectation of effecting a cure. The very idea of the thing would have been perfectly absurd.

One word as to the proper instrument to be employed in this operation. Dr. Watson states, *op. cit.*, p. 286, that he once requested a surgeon to perform it upon a child, and, to their horror, when the trocar was withdrawn from the canula, "instead of clear serosity, a fine stream of purple blood spouted forth. We naturally thought it was all over with

the child, which presently became deadly pale and faint. A verdict of *infanticide by misadventure* stared us in the face. But under the use of stimulants the child revived again; no hemorrhage went on internally, as we apprehended it would; but the child, after a day or two, seemed very much the better for the loss of the blood." The trocar "was not so delicate as it might have been," and it is probable, he thinks, that one of the larger superficial veins had been pierced; the opening having been made at a considerable distance from the longitudinal sinus. The trocar, therefore, in these cases, should be small, and should be entered perpendicularly to the surface; and, in order to avoid the longitudinal sinus and the larger veins emptying into it, it is advised to introduce it at the edge of the anterior fontanelle.

Dr. Conquest, who boasts of most extraordinary success in this operation, (*Lond. Med. Gazette*, March, 1838,) used a small trocar, introducing it through the coronal suture below the anterior fontanelle. In nineteen cases reported by him, ten are put down as successful! But, we think, if Dr. West's test of success, to which we have already alluded, were applied to these cases, many of them would be found wanting.

The punctures should not be made too frequently, nor should too large a quantity of fluid be withdrawn at once. As the cranial cavity becomes diminished in size, gentle support must be made with straps of adhesive plaster and bandages, and, if the child sink rapidly, resort must be had to stimulants.

Although it is not our purpose in this article to examine other methods of treatment in detail, such as compression, internal remedies, &c., we may in conclusion remark, that it is generally admitted by our best authorities that the plan pursued by Gölis, in cases not congenital or occurring shortly after birth, of administering calomel for a long time, and of the application of mercurial ointment to the head, which is kept constantly covered with a woolen cap, is quite as effectual as anything that has been proposed in the way of

medication. To these means must be added the daily use of stimulating baths. In very obstinate cases he employed issues, blisters, or tartar emetic ointment to the head, and, under particular circumstances, leeches or cupping. A nutritious diet, mild diuretics, and diaphoretics are important adjuvants. Even when resort is had to the operation, these measures should still be continued, and, conjoined with compression, the patient will be likely to derive far greater benefit than if either method be trusted to alone.

ART. II.—*On Vaccination and the Causes of the Prevalence of Small-pox in New-York in* 1853–4. By JOSEPH C. HUTCHISON, M. D., Physician to the Brooklyn City Dispensary.

THE subject of the present article is replete with interest to the medical inquirer, and of vast importance to the well-being of society. Its importance is at once manifest, when the startling announcement is made, that for the year ending March 1st, 1854, nine hundred and twenty-nine deaths occurred in the city of New-York, from a disease that is confessedly more under the control of man than any other of equal gravity; five hundred and fifty-two of which occurred during the last third of the year.* It is therefore a question for serious investigation, which I hope to conduct in a spirit of candor, and with an earnest desire to arrive at truth, What are the causes that have operated to produce the recent extensive prevalence of small-pox in our midst? If this can be satisfactorily determined, we may be enabled, to some extent at least, by removing the source, to obviate the evil in future. That it is not due to the want of the anti-variolous power claimed for vaccination, we have the most indubitable evidence, for there is no subject in the vast range of medical investigation supported by a larger cloud of evidence than the protective value of Jenner's discovery.

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* These statistics have been obtained through the courtesy of Dr. Hyatt, from the records at the City Inspector's Office, which are not yet published for the last year. The number of deaths stated includes those from varioloid.

Still, it is not *now* believed that it will ever be the means of utterly extirpating small-pox from the earth, (this opinion has recently been expressed by Dr. Tuthill in his valedictory address at the New-York Med. College,) because there are undoubted proofs of its occasional spontaneous origin. Four cases of this kind are reported by Wm. D. Purple, M. D., one by E. C. Banks, M. D., and two by the Editors of the *Phila. Med. Examiner*. (Vide *N. Y. Jour. of Med.*, vol. vii., N. S., 1851.)

In our investigation into the causes of the recent prevalence of small-pox, we have been led to the unexpected conclusion, that it is due, in a great measure, first, to the neglect of vaccination. The truth of this proposition is evinced by the large proportion of deaths that have occurred in children under the age of five years. It is a well-known fact, admitted by the most reliable authorities, that a death by small-pox in a *vaccinated* child is an exceedingly rare event. Indeed, Dr. Gregory of London, whose ample experience entitles his opinions to great respect, declared, in a discussion before the Royal Med. and Chirurg. Society, (reported in the *London Lancet*, March 8th, 1851,) "that cases of small-pox after vaccination, up to the *fifteenth year*, were very rare indeed."

The following Table exhibits the proportion of deaths under five years, in the city of New-York, to the whole number of deaths from small-pox and varioloid, for the five years ending 1st January, 1854:—

Year.	Total Deaths from Small-pox.	Deaths under Five years.	Percentage of Deaths under five.
1849	372	223	60
1850	241	147	61
1851	586	343	59
1852	516	383	74.2
1853	681	458	67.3
Totals	2,396	1,554	64.3

From these statements it appears, that of all the deaths

from small-pox which occur in New-York, a fraction more than 64 per cent. take place under the age of five, or during the period in which it is allowed by all authorities that deaths after vaccination rarely occur. Hence, we must conclude, that this large per cent. of deaths took place in the unvaccinated, and there can be but little doubt that many of the deaths among older persons also occurred in the unprotected.

I have recently seen in the Small-pox Hospital on Blackwell's Island, through the kindness of Dr. Sanger, the resident physician, 13 boys, from nine to fifteen years of age, who had been sent there from the House of Refuge, with small-pox and varioloid, six or seven of whom had never been vaccinated. Dr. Parkinson, vaccine physician to the New-York Dispensary, has informed me that almost all the cases of small-pox treated by the outdoor physicians of that institution have occurred in those who have not been vaccinated. Dr. P. has also told me that about one-sixth of the individuals vaccinated by him are upwards of three years old; and as his vaccinations average 3,000 annually, it will be seen, that at this institution alone, 500 children, more than three years of age, are presented every year, who have been exposed unprotected to the ravages of the small-pox.

Further evidence of the neglect of vaccination is afforded by a comparison of the mortality from small-pox, in those countries where it is made compulsory by legislation, with the mortality in New-York, and other places, where no such regulation exists. The following tables, extracted from the *Report on Small-pox and Vaccination* made to the London Epidemiological Society, March 26, 1853, exhibit the results of these opposite modes of treatment, which are of so much interest that they are presented entire:—

(A.)—Table showing the mortality in various places in *England*, *Scotland*, and *Ireland*, from small-pox, as compared with the total mortality, for ten years, ending 1850 or 1851:

	Deaths from Small-pox.	Deaths from all Causes		Deaths from Small-pox.	Deaths from all Causes
London	16. per	1,000	Greenock	34.6 per	1,000
Birmingham	16.6	"	Glasgow	36.	"
Leeds	17.5	"	Dublin	25 66	"
Paisley	18.	"	Cork	39.5	"
Edinburgh	19.4	"	Galway	35.	"
Liverpool	21.	"	Limerick	41.	"
Dundee	24.2	"	Connaught } 10 yrs. endg. 1841 }	60.	"
Perth	25.	"	All Ireland }	49.	"
England and Wales (3 years)	21.9	"			

(B.)—Table showing the mortality from small-pox in various countries in which vaccination is directly or indirectly compelled, as compared with the total mortality for various periods, stated in the "Tables exhibiting the Mortality from Small-pox in various Countries" at the end of this Report:

	Deaths from Small-Pox.	Deaths from all Causes.		Deaths from Small-Pox.	Deaths from all Causes.
Westphalia	6 per	1,000	Trieste	5.15 per	1,000
Saxony	8.33	"	Bohemia	2.	"
Rhenish Provinces	3.75	"	Lombardy	2.	"
Silesia (Prussian)	5.25	"	Venice	2 2	"
Pomerania	7.75	"	Sweden	2.7	"
All Prussia	7.5	"	Bavaria	4.	"
Lower Austria	6.	"			

The following table, compiled from the annual reports of the City Inspector, exhibits the average of deaths from small-pox, out of every 1000 deaths from all causes in the city of New-York, for periods specified, from the year 1805, when the first report was made, to the end of 1853. It will be observed that the mortality from small-pox here, where vaccination is also voluntary, coincides generally with the results observed in Table A:

	Deaths From Small-pox.	Deaths From all Causes.
For the 10 years ending 1815,	18.7 per,	1,000
" " 10 " " 1825,	22. "	"
" " 10 " " 1835,	18.5 "	"
" " 10 " " 1845,	21.4 "	"
" " 9 " " 1853,	25.4 "	"

The highest ratio of deaths from small-pox in New-York occurred in 1824, when it amounted to 96.3 per 1,000 deaths from all causes; in 1853 the ratio per 1,000 was 32.23, which has been exceeded nine different years since the first report was made.

An inspection of the above tables reveals the significant fact, that, in those countries where vaccination is made compulsory, the proportionate mortality from small-pox is considerably less than half what it is where it is entirely voluntary, as in our own commercial metropolis. It must be borne in mind, that in many of the countries comprised in the second table, where vaccination is enforced by direct compulsion, by fine, &c., the public vaccinations occur but once a year; it necessarily happens that a number of the children are several months, or even more than a year old, before an opportunity is offered them of being vaccinated; and in those states where vaccination is only indirectly compelled, by making it an indispensable preliminary to admission to public schools, alms-houses, orphan asylums, &c., it may be deferred many years. The importance of this consideration is very obvious, when we remember that in England and Wales the proportion of deaths from small-pox under one year is 25 per cent., and in Paris considerably upwards of 14 per cent., and there is but little doubt, if proper regulations existed with regard to the age at which the operation should be performed, in the countries where it is directly or indirectly compulsory, the mortality might be still farther reduced. In proof of this statement, we are informed by Dr. Watson, in his valuable lectures, that, in Denmark, "Variola had at one time disappeared before the defensive influence of compelled vaccination;" but that "chance and a careless security, engendered by the absence of the pest, have led to its re-introduction there."

In view of the facts which have now been presented, is it surprising that, fifty-eight years after the discovery of vaccination, which was justly hailed as the greatest boon ever bestowed on man, we find small-pox committing such fear-

ful ravages in our midst? Indeed, is it not rather a matter of wonder that small-pox is not more prevalent? And what stronger evidence do we require than has been offered of the reckless neglect of vaccination, and of the great importance to society of making it compulsory?

The causes which induce this inattention to vaccination are ignorance and apathy, as well as the prejudice of some, who, without a sufficient examination of the facts, regard it as an inefficient safeguard. If they have seen one case, and heard of several others who have been vaccinated, and subsequently contracted small-pox, this is deemed ample evidence of the worthlessness of vaccination. Such individuals might, with the same propriety, abjure quinia as a remedy for ague, because it occasionally fails to arrest the disease. A melancholy instance of the effect of prejudice against vaccination has recently occurred in New-York, and was related to me by my friend Dr. Purple. A lady, who had no confidence in the protective power of vaccination, purposely exposed her children (four in number) to the contagion of small-pox, in order that they might have the disease at once, and thus relieve her from future anxiety. The calamitous result was, that three died, victims of the folly and prejudice of their doting, but deluded parent

A second cause of the recent prevalence of small-pox is imperfect vaccination. Such unfortunately has been the want of attention to this important subject, that the salutary cautions of Jenner have been overlooked or entirely disregarded, and it has become a matter of importance, again briefly to call attention to them. It may result (1) from not observing the regular progress of the vaccine disease. Unfortunately, the opportunity of watching every stage of vaccination, which is absolutely necessary in order to arrive at correct opinions upon the case, is often denied to medical men; but this, which is unquestionably one of the fruitful causes of small-pox after (supposed) protection, might be obviated to a great extent, if the family physician would exercise his influence in impressing its great importance. If the

insertion of lymph into the arm is followed by the development of a vesicle, or even an ulcer, the unprofessional are often ready at once to conclude that cow-pox has been produced, and that the attention of a medical man is not longer necessary, when in truth no one, who is not thoroughly and intimately acquainted with the disease, is competent, or should be permitted, to decide so important a question. The illustrious author of vaccination, at an early period of its history, enforced, by frequent admonition, the necessity of a *particular* knowledge of cow-pox to the vaccine inoculator. "He should not only be acquainted with the laws and agencies of the vaccine virus on the constitution," says Dr. Jenner, "but with those of the variolous also, as they often interfere with each other. A general knowledge of the subject is not sufficient to enable or to warrant a person to practice vaccine inoculation; he should possess a particular knowledge; and that which I wish strongly to inculcate, as the great foundation of the whole, is an intimate acquaintance with the character of the true and genuine vaccine pustule (vesicle); the spurious pustule (vesicle), would then be more readily detected, whatever form it might assume, and errors known no more."

In our public vaccine institutions, it is customary to examine the vesicle but once, (and this is frequently not permitted,) and decide from that, whether the genuine disease is developed or not. This most reprehensible custom has been adopted, I presume, without acknowledging its propriety, because it is impossible to induce persons to return, or to convince the class who go there of the importance of observing regularly the different stages of the disease, in order to determine whether true vaccine has been developed. The following admonition of a distinguished authority, Dr. Labatt, is well worthy our consideration:—"Although the cow-pox be a mild disease, and the mode of inoculation apparently simple, yet a previous knowledge of the complaint is not the less necessary; and, indeed, the comparative mildness of it has led many to suppose that it is sufficient to ex-

amine the patient once or twice after inoculation. I am, however, convinced, that unless every stage of the complaint be strictly attended to, we cannot give a correct opinion upon the case. It should be recollected that 'there are gradations in the state of the vaccine vesicle, from that slight deviation from the usual course which is of no consequence, up to that which affords no security at all,' and which can only be distinguished by closely watching the arm through the whole progress of the vesicle." (*Vide Address on Vaccination*, p. 15. Dublin, 1840.) The Committee of the Provincial Medical and Surgical Association, in speaking of the tests for determining the true vaccine disease, observe that "the first to which we would advert is the regular progress of the vaccine vesicle, and we would lay it down as an axiom never to be forgotten, that no one is qualified to speak of its effective character who has not, at suitable periods, noticed this progress." (*Transactions of Prov. Med. and Surg. Association*, vol. iii.)

In a majority of instances the vaccine disease undoubtedly pursues its regular course; in others, however, no effect has been produced; and, in a still larger proportion, a spurious disease has been developed, sufficiently analogous to the genuine, to lull the parents of the child into a false state of security, which leaves it in a more perilous situation, from the variolous infection, than it was at first. The security of the public depends so much upon the regular development of the vaccine disease, that the inspection of the vaccinated, at regular periods, should not only be insisted on as a matter of the highest importance, but actually enforced by legal enactment. A slight deviation is at first observed, which gradually becomes greater—therefore, the least deviation from the normal vesicle should at once demand our attention.

(2.) Vaccination may fail in consequence of want of attention to the state of the recipient. The influence of cutaneous diseases, especially on the progress of the vaccine vesicle, is urged by all authorities on the subject of vaccination, and yet how often is the admonition disregarded! At a very

early period in the history of vaccination, Dr. Jenner observed the effect of cutaneous eruptions in deranging the character of the vaccine disease, and called the attention of his followers to its importance. In one of his unpublished letters, (quoted by the Committee of the Provincial Med. and Surg. Association,) he observes, that "the greatest of all impediments to correct vaccination is that which arises from an herpertic state of the skin; indeed, compared with this, all the rest are as dust in the balance; and when the rules which I have again and again laid down respecting this point, and for so long a period, are attended to, then, and not till then, will the confi dence of the public be fully established as to its preventive power." In another place, the Committee observe, that, "among those of our correspondents who have had most experience, and whose success has been most uniform, we find unequivocal testimony to the accuracy of Jenner's doctrine on this head. Many have made no observation at all respecting it; while some mention dentition, general ill health, scrofula, &c., as impediments to vaccination."

An impression, unfortunate in its effects for the reputation of vaccination, is, that when pure vaccinal lymph is used, genuine cow-pox will be developed, regardless of the state of the recipient. This opinion is a prolific source of evil consequences. Examples are often met with in practice, where the purest cow-pox lymph may, from circumstances connected with the state of the patient at the time, produce an imperfect vesicle. "I have seen infection from the same source," observes Dr. Labatt, "produce in one child a genuine, in another a spurious vesicle, and, in a third, fail altogether."

Not only is a disregard of the state of the recipient, at the time of the operation, a common cause of the failure of vaccination to afford protection, but such patients are also fruitful sources of spurious lymph, which exerts an extensive deleterious influence, by the false security which it affords to others to whom it is applied.

(3.) Another cause which, it is said, may render the anti-

variolous power of vaccination imperfect, is the breaking the vesicle in the early stage of its forming. It was a rule established at a very early period, that one or more vesicles should be allowed to run their course without being in any way disturbed, in order to ensure their full protective influence. The weight of evidence is still in favor of the observation of this canon. Dr. Labatt, whose great experience entitles his observations to much respect, says, "when one puncture has been made, and of course there is but one vesicle, I would be disposed to let it run its course uninterrupted, lest, by injuring its structure, we interfere with the regular course of the disease, and prevent the completion of the anti-variolous process." Dr. Baron also insists on leaving one or more vesicles to run their course, without being in any way disturbed, and the late Dr. Chapman inculcated similar views.

On the other hand, M. Bousquet, whose zeal and experience in the practice of vaccination are well known and justly appreciated, argues, that if the full effect of vaccination is obtained on the fifth or sixth day, it can be a matter of very little moment whether the vesicles are left untouched or not. He has also appealed to experiment; having opened the vesicles, he has applied the nitrate of silver to the bottom, so as to put a stop to the local process. He has then re-vaccinated the children, and not in a single instance succeeded. (*Traité de la Vaccine et des Eruptions Varioleuses ou Varioliformes.*) Similar views are, it is presumed, very prevalent here, as it is almost a universal custom among private practitioners, and in some of the public vaccine institutions, to produce but one vesicle, and puncture that at the proper time, for the purpose of obtaining lymph.*

A serious objection to producing but one vesicle, and depriving that of the lymph it contains, independently of the

* Dr. J. Lewis Smith, of the Northwestern Dispensary, has informed me that he does not lacerate the vesicle, because he is inclined to think its protective power would thus be lessened.

possibility of its impairing the constitutional protection, is, that we cannot afterwards determine so well the true character of the disease; in order to do this, as we have elsewhere said, the progress of the vesicle must be watched through its different stages; if two vesicles are produced, and one should be deranged by accident or puncture, the other enables us to decide its character.

(4.) It is alleged that the protective power of the vaccine disease may be imperfect from performing the operation at too early an age, that is, before the system is sufficiently developed to receive the infection perfect; this is considered to take place about the fourth month; and yet, if we are allowed to judge from the susceptibility of the infant to small-pox at an earlier age, this opinion is not based upon correct observation. It appears, from the Registrar-General's second report, that in 1839 the deaths from small-pox in England amounted to 8,714, of which as many as 202 were within the first month, 181 in the second, 162 in the third, and 456 in the fourth month, making 1,001, or 11 per cent. of the whole number under four months. In the official reports made in the country, the ages under one year are not specified, but I have been informed by Dr. Hyatt of the New-York City Inspector's Office, that deaths from small-pox are sometimes reported as early as the second or third week, and it is a well-known fact, that the fœtus in utero is not exempt from variola. These results teach us the importance of not delaying the operation unnecessarily. Indeed, during the epidemic prevalence of small-pox, or when unavoidably exposed, it may be practised within the month, if the infant have sufficient plumpness to allow the insertion of the virus. If however vaccination should be practised so early in life, in order to ensure complete protection, its subsequent repetition, say about the fourth month, as is usually advised, should not be omitted.

(5.) Imperfect vaccination may be the result of the use of virus, which is not in its most perfect form, on account of being taken before it is sufficiently elaborated, or after the

areola has formed. It is considered a good general rule not to take lymph before the eighth day, when the vesicle has usually attained nearly, if not quite its full size, and it was a golden rule of Dr. Jenner, never to take virus after the efflorescence appears.

(6.) Dr. Stephen Brown, of New-York, has, in his prize essay on small-pox, called attention especially to the influence of the phlegmatic temperament in preventing the prophylactic powers of the vaccine disease. "It is a fact," remarks the doctor, "well known to every practitioner of much observation, during the epidemics of small-pox, which have recently occurred in this city, that in some families all the children have had the varioloid, and in others one half of the children only have had it, while the other half escaped, although as fully exposed as those who became affected; while, in other families, we see all the children escape entirely, after such exposure to the variolous contagion as to render it certain that they are unsusceptible of its influence. Instead of looking for some external circumstance for accounting for these failures throughout a family, as *bad matter*, *improper mode* of insertion, &c., we would refer the cause to *temperament*, more especially as these children were vaccinated successively in different years, and by different practitioners. It could not be expected, most certainly, that the causes heretofore considered by writers and practitioners as the true ones, and which might be avoided by a little attention, should be permitted to happen so generally in one family, while in other families of many children they do not occur in one instance.

"It is a very common circumstance to witness two distinct temperaments in the same family; this occurs when the father presents one temperament and the mother another; some of the children partake of the father's, others of the mother's." (*Vide Am. Medical Recorder, January*, 1829.)

This view of Dr. Brown, although of no real practical value, is interesting, because it enables us to explain the cause of

occasional failures of vaccination, which might have unjustly impaired its reputation.

(7.) It has been asserted that vaccine lymph, in passing indefinitely through a vast number of individuals, with all due care and selection, has suffered an essential diminution in its anti-variolous property; and hence, that this is a frequent cause of small-pox after vaccination.

M. Bousquet, in comparing the vaccine of 1836 with that from which it was derived in 1800, by the aid of a colored engraving, clearly shows a positive diminution of intensity, and explicitly states that the course is changed; from this he infers a failing efficiency in the vaccine. Dr. Gregory, of London, has also observed a "diminished intensity" in the vaccine lymph, and expresses the opinion that, in passing through the bodies of many persons, it loses in process of time some essential portion of its activity. Other high authorities entertain similar opinions, which are contrary to former belief, as well as a most respectable weight of evidence of the present day.

Dr. Jenner declares that there is "every reason to expect that its effects will remain unaltered, and that we shall not be under the necessity of seeking fresh lymph from the cow." The Committee of the Provincial Med. and Surg. Association conclude that vaccine lymph does not necessarily become deteriorated, though it may have passed through a great number of subjects, and have been used for a great number of years. And the National Vaccine Establishment of England also maintains that vaccine lymph retains its protective property throughout, and in their Report for 1839, it is stated that they prefer the vaccine lymph derived from the original virus furnished by Dr. Jenner, and which has been in use forty years, to any which may have been taken recently from the cow.

We may more readily arrive at a conclusion on this subject, by inquiring what is requisite, in order that vaccine lymph should be pure and perfect. It is manifestly of the first importance that it should come from a vesicle which has been

regular and complete—that the state of the recipient, with regard to the condition of the skin and other constitutional peculiarities, should have offered no impediment to the regular course of the disease; in a word, that every care should have been taken to preserve its perfect integrity. Now, when we remember the numerous causes detailed above, which it is conceded may impair the protective value of vaccination, and that much of the lymph in use, (as there is great reason to believe,) is derived from such sources, I cannot forbear uttering the conviction, that not only are the individuals who furnish such lymph imperfectly protected, but that the lymph itself is more or less deteriorated.

The virus which I have recently been using is the 180th remove from the cow, and was furnished me by my friend, Dr. C. L. Mitchell, of this city, who obtained it of Dr. J. Otis Pond, of New-York. Dr. P. has informed me that it is the portion of a stock obtained through a friend, from a physician of Bristol, England, who had been employed to procure fresh virus for the London Vaccine Institution, which he did by variolating the sturk. Dr. Pond was supplied from the 18th remove, and from the care which he has exercised in keeping a registry of all vaccinations, rejecting virus from any except perfect pustules in healthy infants, we may infer that it is now uncontaminated.

In order to determine more accurately the difference in the effects of this virus, and that which has long been current in man, I have used both, simultaneously applied at different points in the same subject, and have invariably found the vesicle produced by that recently from the cow developed with more certainty, and its local action more analogous to that described by Jenner. This also coincides with the experience of Dr. Mitchell, and is further corroborated by the observations of Dr. Marvin, another distinguished physician of this city, both of whom have used virus from the same source for five or six years. If the test I have just mentioned could be more generally applied, I cannot doubt but that much of the prejudice recently excited against vac-

cination, in consequence of its failures, would be ascribed to the proper cause, viz., deteriorated lymph.

A third cause of the recent prevalence of small-pox is *epidemic influence*. The origin of variola is universally admitted to be a specific contagion. But that some other influence occasionally co-operates with contagion in producing this, as well as other diseases of analogous origin, is evinced by the fact that, although scarcely a week passes without some deaths occurring from small-pox, it only occasionally occurs as an epidemic, and then attacks many who have been frequently exposed to the contagion on former occasions without effect. What the origin or essential nature of this unknown influence is, cannot be determined in the present state of our knowledge; its effects, however, we are sufficiently familiar with. In the earlier ages of the world it was attributed to the anger of the gods. In later times its origin has been ascribed, with scarcely more reason, to some mysterious astral or meteoric agency; whilst others maintain that it is produced by lethiferous agents which are extricated from the earth by the convulsions of nature. It is scarcely necessary to say that these explanations are purely hypothetical. We might indulge in much curious and interesting, but unprofitable speculation upon this subject, but we can only say with certainty that there must be some distempered condition of the physical agents around us, which occasionally generates a stronger predisposition to the disease than exists under other circumstances; and this, which we call epidemic influence, added to contagion, causes many individuals to be attacked with small-pox, to whom in ordinary seasons the vaccine disease would afford a sufficient security.

Although we know absolutely nothing of the origin or real nature of epidemic influence, we can observe its effects, and to some extent understand the laws which control its mysterious operations. And it behooves us to prepare for future aggressions of this epidemic influence by the exercise of proper care and vigilance in vaccination, thus depriving it of the

pabulum with which it has so recently, and is now satiating its gluttonous appetite.

A fourth cause of the recent epidemic is the neglect of re-vaccination. It is impossible to say with accuracy how far this may have contributed to the late prevalence of small-pox, because we cannot determine to what extent it has been neglected, nor can we say positively in any given case of small-pox that re-vaccination would have averted it. We may, however, by examining the question of its necessity, be able to conjecture with some probability how much it might have contributed to the prevention of the disease.

The distinguished Dr. Gregory has promulged opinions on the subject of re-vaccination, which, as I think, are not only at variance with well-established facts, but, from the high position he occupies, are calculated to effect serious harm; it becomes, therefore, a matter of grave importance to bring in review briefly some of the facts bearing on this subject.

In a discussion which took place before the Royal Med. and Chirurg. Society (vide *London Lancet*, March 8th, 1851), Dr. Gregory stated that, up to fifteen, the protection afforded by re-vaccination was as great as that afforded by inoculation all through life. After fifteen the system was subject to another law. "With respect to the question," he goes on to say, "as to whether re-vaccination after fifteen renewed the protection, he might answer, that in his opinion re-vaccination was a proceeding of very little moment. It satisfied the mind of the public rather than effected any real good. If it satisfied the mind, why should it not be performed? Let it be so by all manner of means, but not under the impression that it afforded any protection." Had we no other evidence of the importance of re-vaccination, that derived from the results of the operations in the Prussian army would be sufficient. Before re-vaccination was enforced, the different military stations were a prey to variolous disease, which has now almost entirely disappeared. From the Report of 1849, we find that 51,637 individuals were re-vaccinated, and only 62 cases of variolous disease occurred throughout that year, of which 9

were genuine variola, 24 varioloid or modified small-pox, and 13 varicella. One case only was fatal. A recruit, vaccinated when a child, had not yet been re-vaccinated, and died on the 10th day. (*Am. J. of Med. Sci.*, vol. xxi., p. 479.) But we need not traverse the ocean to find evidence of the importance of re-vaccination. Our own country furnishes no statistical data on this subject, but occasional cases must have been witnessed, by almost every practitioner who has seen much of small-pox, illustrating the value of this precaution.

In advocating re-vaccination, it must not be implied that it is the writer's opinion that the protective power of vaccination extends to a limited number of years, and that afterwards the individual is again susceptible to variola. This question may still be considered as *sub judice*. Nor do we believe that a successful re-vaccination proves that the individual who has been subject to it is thus shown to have lost his vaccine protection, and consequently to have been liable to small-pox infection. Its importance is urged from other considerations, some of which will now be mentioned. (1.) We have no means of determining whether the vaccination was correctly performed; whether the development of the disease was regular and complete, and whether the condition of the patient was such as that no impediment was presented to the regular course of the affection. These it is impossible to know unless you have regularly and carefully watched the course of the disease, or have repeated the operation with genuine virus until there remains no longer a susceptibility to the vaccine impression, as was long since suggested, or applied to the well-known beautiful and ingenious test of Mr. Bryce. Even exposure to the contagion of variola with impunity, although it affords strong presumptive evidence, is not a positive assurance that the individual is protected by vaccination, because we occasionally meet with persons who have from time to time resisted the usual influence of contagious diseases, but finally have succumbed. A still less reliable evidence of perfect vaccination is the appearance of the scar, which, according to some of the most experienced observers,

offers nothing characteristic. (2.) As the permanent influence, even of duly conducted vaccination, is by no means a settled point, and as re-vaccination can do no harm, and may afford security from a most loathsome if not dangerous disease, we can see no possible reason why it should not be practised universally. If the following rule, laid down by the Committee of the Prov. Med. and Surg. Association, were generally acted on, I imagine we should hear much less of variola after vaccination:

"*All cases of reputed vaccination, unless they have passed under the review of a competent judge, who has witnessed the different stages of the affection, should be considered as no vaccination.*"

"Until this canon be universally admitted and acted upon," the Committee go on to say, "we shall never have attained the complete security that vaccination is capable of affording. Failures may still occur, but they will neither be so numerous nor so fatal as they have been reported." It has been urged that if re-vaccination be looked upon as essential, less attention will be paid by practitioners and parents to the first vaccination than its importance demands, under the impression that any imperfection would be rectified by the subsequent operation. It seems to me extremely improbable that physicians, or parents especially, would incur the risk of having their patients or children contract variola from a want of proper attention to vaccination, especially when its protective power, for a certain period at least, is so universally conceded."

From the materials presented in the preceding pages, and from other sources, the following conclusions may be legitimately deduced:

1st. That the recent extensive prevalence of small-pox in New-York may be, to a great extent, attributed to the *neglect of vaccination.*

2d. *To imperfect vaccination*, which may occur: (1.) From not observing the regular progress of the vaccine disease. (2.) From a want of proper regard to the state of the recipient. (3.) From injuring the vesicle. (4.) Performing the

operation at too early an age. (5.) Using lymph taken at an improper stage of the disease. (6.) Peculiarity of the temperament of the recipient. (7.) Vaccinating with lymph deteriorated by age, or any of the above causes.

3d. To epidemic influence.

4th. To a neglect of re-vaccination.

From the investigation we have made of the subject, our estimate of the immense value of vaccination is not only undiminished, but is positively increased, and we now feel more inclined to rally around the standard erected by the immortal Jenner, and vigorously to defend from the assaults of ignorance and prejudice the most brilliant triumph of modern medicine.

I cannot close this inquiry without urging in conclusion the importance of the establishment of a "National Vaccine Institution," on a broad and liberal plan, which should be so conducted as constantly to keep ample supplies of *pure* vaccine virus, (which can be easily obtained by variolating the cow,) with which, from the great facilities of communication that now exist, the most remote section of our widely extended country could be promptly supplied. It is a well-established fact that cow-pox can readily be produced by inoculating the cow with human small-pox matter, and that lymph from this source develops in man a disease identical with that produced by casual small-pox. This experiment is said to have been successfully made so early as 1801, at the Veterinary College in Berlin. It was repeated in this country by Dr. Carpenter, of Philadelphia;* Dr. McPhail, of Baltimore, now of this city, (*Balt. Med. and Surg. Journal*, vol. ii., p. 301,) and also by Dr. Martin, of Massachusetts, *Med. Examiner*, v. iv., p. 782. Dr. Basil Theile, of Kassan in Russia, (*Am. J. Med. Sci.*, N. S., v. ii., p. 467,) and Mr. Seely, of Aylesbury, in England, (*Trans. of Prov. Med. and Surg. Association*,) have also performed similar experiments. To the latter gentleman especially are we indebted for much valuable information

* Noticed in *Med. Recorder*, No. xxviii., p. 210.

on the whole subject of *Variolæ Vaccinæ*. With the lymph obtained from the variolated cows, each of the experimenters succeeded in developing in the human subject vaccine vesicles in the most complete and reliable manner.

'Such an establishment as we have mentioned, together with legal enactments enforcing vaccination under severe penalties, would be of incalculable aid in the suppression, if not the extinction, of the most loathsome and hideous disease that ever afflicted mankind. In New-York, vaccination is freely offered, "without money and without price," and its importance has been recently urged in hand-bills by the mayor, and yet how many reject the gratuity, except when alarmed by epidemic small-pox! and nothing less than legal compulsion will obviate the evil.

It is a matter of surprise that we are so far behind many of the less enlightened and more despotic countries of Europe on this subject, and that now, fifty-eight years after the discovery of vaccination, its importance remains to be urged. We might enter at large into the discussion of the propriety of compulsory vaccination, but we have already exceeded the limits at first contemplated. This question may, however, be examined at a future time.

GREENWICH AVENUE, BROOKLYN, *April* 1854.

ART. III.—*On a Peculiar Form of Malignant Inflammation of the Lips and Face, resembling Malignant Pustule.* By W. PARKER, M. D., Professor of Surgery in the College of Physicians and Surgeons, New-York.

THERE have come under my observation, within a recent period, several cases of a peculiar form of inflammation of the lips and face, which resembles somewhat phlegmonous erysipelas, but more strikingly, especially in its commencement, malignant pustule, and, in its subsequent progress, carbuncle. It, however, differs from these affections in some essential particulars, which will be noticed after giving the details of the following cases, which illustrate the peculiarity of this form of disease.

CASE 1.—I first saw this patient on the 18th of last Decem-

ber. He was a young man, aged 23, merchant, of good character, temperate habits, and in the previous enjoyment of good health. About a week before I visited him, a small pustule made its appearance upon the central portion of the lower lip, just below the edge of the vermilion border. It became painful, had a livid areola, gradually but slowly enlarged, and finally broke and began to discharge. The pain increased, and the swelling extended downwards upon the chin. At my first visit, about this period, the tumefaction had reached as low as the os hyoides, and had extended over the right side of the face to the head; it was hard to the feel, of a livid color, insensible, and had now much the appearance of a carbuncle. The lips were greatly tumefied, everted; gums swollen, and of the same livid color; tongue moist; inside of mouth unaffected; ptyalism considerable. The lower lip, about the seat of the original pustule, appeared gangrenous. The pulse was 120, rapid and feeble, respiration unaffected. He was able to get up and sit in the chair, but was suffering from great depression of the vital powers. The course pursued consisted of deep scarifications of the lips and yeast poultices to the swelling, and stimulants to sustain the general system. The swelling continued to extend, involving successively the neck, face, and finally the head. He died on the following day, the 19th, late in the evening.

Case 2.—I visited on the 15th of January, a patient, aged 45, merchant, suffering from what appeared to be a carbuncle of the under lip. He was of a good constitution, temperate habits, and in the enjoyment of good health, previously to the present attack. Four days before I saw him, he was supposed to have cut the lower lip slightly, and applied to it arnica. The inflammation commenced at this point, the lip swelled largely, became everted, had a livid color, was tender, hard, and the seat of a burning pain. At several points there were small sloughy apertures, discharging thin pus. The constitutional symptoms were considerable, but not sufficient to confine him to his room. The treatment consisted of free incision and yeast poultices to the lip, and sustaining

remedies for the general system. Portions of the lip sloughed, but he recovered.

CASE 3.—Mr. W., aged 26, married, furniture dealer, of good habits, and hitherto perfect health, discovered a small pustule on the under lip near the right angle of the mouth, on the 2d of April. It was tender on pressure and had a hard base, but attracted no other attention. During the night the disease extended considerably, involving the whole lip and the right side of the face in a hard, livid, and painful swelling. On the evening of the second day his physician first saw him, and found the lip greatly swollen, of a livid color, and the seat of a burning pain. He scarified the parts for the purpose of local depletion, and also applied leeches. The swelling continued to extend, involving the right side of the neck and face to a great extent. I saw him on the 7th, at 11 A.M. His symptoms were then most unfavorable, pulse 130 per minute, intermittent every seventh or eighth beat, weak and small; respiration rapid, moaning; skin warm and moist; urine free; pupils much dilated; mind clear. He complained of oppression about the chest, and had not been able to obtain sleep. Both lips were involved in the swelling; were hard, livid, and insensible; the whole side of the neck and face was similarly affected, the eye being nearly closed. The frontal vein was livid, red, and prominent, and the veins of the cheek were also visible, as if distended. The treatment consisted of deep scarifications of the lips, and yeast poultices to the part, with anodynes and stimulants. I visited him again at six o'clock, P.M., and found him rapidly failing; treatment of no service. He died the same evening.

CASE 4.—I was called, April 10th, to see Miss S., aged 30, occupied as a governess, of good constitution, whom I found laboring under the same difficulty as in the preceding cases. Her history was almost precisely similar. Five days before, while in the possession of apparently perfect health, she first observed a small pustule on the lower lip, just below the red line of mucous membrane; it was regarded as a small

boil, and no attention given to it. On the following day the pustule had enlarged somewhat, was hard, and had a livid areola, but she continued about her employment; she spent a feverish, restless night, and on the next day called her physician. The disease gradually extended, assuming the appearances already noticed, and for two days no danger was apprehended. Her symptoms now became much more unfavorable, and at this period I first saw her. She was lying in bed quite insensible; deglutition difficult; respiration laborious; right side of body paralyzed; lips large, everted, and cold; right side of face, neck, and forehead swollen like the lip, hard and purple; right eye protruded; pupils dilated and insensible. On making an incision into the lip, the cellular substance was found filled with small deposits of pus, which were forced out on slight pressure. As she was moribund, treatment was of no avail.

From the history of the foregoing cases it is evident that this disease differs from erysipelas, for which it has in several instances been mistaken, in its origin in a pustule, without a chill or other constitutional disturbance, the hardness of the swelling, its purple or livid color, insensibility, and absence of much pain. It differs from carbuncle, which in some features it resembles in the class of individuals which it attacks—they being young, temperate, of sound constitution, and in the previous enjoyment of good health—and in its rapidly fatal course. Carbuncle, on the contrary, occurs by preference in persons enfeebled by age or vicious habits. It differs again from true malignant pustule, to which in its origin it seems allied, by attacking persons who have not been affected by poisonous wounds, or who have been liable to the introduction of animal poisons into the system.

This disease would therefore seem to be peculiar, having many points of resemblance to other similar affections, but still not so closely allied to any one as to warrant its classification under the same head. In every instance which has come under my own observation, the pustule has been seated upon the lower lip, and from this point the inflammation has

spread. In a fatal case related to me by a physician, in whose practice it recently occurred, the pustule was seated upon the side of the nose.

Although the nature and progress of the disease show a vitiated state of the system, in no instance have I been able to trace the attack to the contact of poisonous matter, or its reception into the system in the food or drink. In every instance the patient has been in the enjoyment of good health, and the progress of the disease, though rapid, has excited so little local and general disturbance as not to excite alarm until a short time before its fatal termination. The general symptoms are of a typhoid character, the vital powers being evidently depressed either by the influence of the disease itself, or, which is more probable, the cause upon which the development of the disease depends.

The late Dr. Peirson, of Salem, Mass., reported (*Bost. Med. and Surg. Jour.*, 1852,) several cases very similar to the above, and considers the disease malignant pustule. Among them is the case of Hon. Robert Rantoul, whose disease was thought to be erysipelas, but which Dr. Peirson describes as malignant pustule. The pustule in this instance was situated upon the forehead, and depended upon no known local cause. With but one or two exceptions, the remaining cases in this paper occurred in curriers, and hence Dr. Peirson attributes the disease to inoculation with dead animal matter. Some of them bear a strong resemblance to the cases above related, the disease attacking the lips of healthy young persons, entirely unexposed, and spreading thence upon the face. These can scarcely be classified under the head of malignant pustule as described by authors. Bayle speaks of a form not depending upon an external cause, but this distinction is not generally received.

The success of the treatment depends upon the *early* recognition of the true nature of the disease. It is very liable to be mistaken for erysipelas, and a course of treatment adopted accordingly, which avails little in staying its progress. Attention to the points of a differential diagnosis already

given, will prevent the practitioner from falling into this error. The treatment best adapted to meet the indications of the case are deep and free scarifications, followed by yeast poultices, or turpentine, the object being to prevent sloughing and to promote healthy suppuration. The general system requires soothing and sustaining remedies, such as are suited to an ataxic condition. The early and prompt employment of these means will afford a fair, and probably the only, hope of success in the treatment of this disease.

My object in this communication is to call special attention to this disease, which, from the frequency of its occurrence in my own practice, and other cases which have been related to me, seems to be very prevalent. The points of particular interest are in regard to its causes and pathology. Does it depend upon an endemic or epidemic cause, or upon the introduction of animal poison into the system? Is there phlebitis as a cause or consequence? These questions are important and can only be settled by careful observation made upon the living and dead subject.

ART. IV.—*Case of Amputation of the left Arm and Shoulder, including Portions of the Scapula and Clavicle, for the Removal of a large malignant Tumor.* By MOSES SWEAT, M. D., of N. Parsonsfield, Maine.—[With Illustrations.]

ON the 3rd of October, 1847, I was called to examine Ira Hobbs, in S. Bridgeton, aged 27, in regard to the expediency and practicability of amputating his left shoulder, for the removal of a very large tumor, of a carcinomatous character, involving all the bones and soft parts forming the shoulder-joint and the upper half of the arm. He had suffered much from this affection for a long time, and he had as long hoped in vain that some change in the tumor might take place for the better.

I found him feeble, much emaciated, and suffering severe pain continually, from compression and irritation of the brachial plexus of nerves, excepting when he was under the

stupefying effect of opium or morphine. And he was attended with distressing gastric irritation, produced, as I supposed, by the use of narcotics.

On exploring the chest, I found evident signs of organic lesion of the left lung, to some extent. The tumor was spheroidal, eight inches in diameter, hard, smooth, and uniform in its appearance. The skin was thin, from over-extension, but not discolored, except that the cutaneous veins were enlarged

and blue. And, though there was no ulcerated surface, the odor arising from the tumor was very offensive. The shoulder joint was immovable, and, from the firm adhesion of the tumor to the upper part of the chest, it seemed probable that not only the muscles about the shoulder, and the scapular and pectoral muscles, but the intercostal muscles also were involved in the disease, and that it might be extending into the thorax. No particular cause could be assigned, by the patient or his friends, for the formation of tumor, excepting that, six years before, he fell from a low building, and struck on his back and shoulder; but there was no perceptible injury at the time, no fracture, dislocation or contusion. He was, however, after this, occasionally troubled with "rheumatic

pains" about his back, neck and shoulder. No enlargement of the parts was noticed for two or three years, and, for some time after the tumor was first discovered, it grew very slowly; but, for about a year before I saw him, it had grown rapidly, and his sufferings had increased in proportion to the increasing size of the tumor. Taking the case into consideration, in all its bearings, I was decidedly of opinion, that amputation, at this late stage of the disease, could not effect a cure; and although it might mitigate his sufferings in some measure, yet it seemed to be too formidable an operation for so feeble a man to bear, with no better prospect before him. I therefore advised him to continue in the use of such remedies as might best relieve his sufferings, and make him as comfortable as the nature of the case would permit, and to submit with as much patience and fortitude as possible to what awaited him; gave him such directions and prescribed such palliatives as seemed to be necessary at the time, and left him, never expecting to see him again.

About the 20th of the same month, I was called to visit him again, with an urgent request, by the messenger, to operate, if, on another examination, I should think "he would live through the operation." He said that Dr. Dunnells had rather advised to the operation since I was there. I accordingly went, and took with me my son, Dr. Wm. W. Sweat, to assist me, in case we should operate. On our arrival, we found the patient extremely anxious to have the limb removed, with the hope only of its mitigating his sufferings, during the short time he might live. Though he was at this time exceedingly feeble, and could not be raised in bed, nor elevated even at a moderate angle from a recumbent posture, without being faint, yet on the whole we were of opinion that, with due precaution in regard to securing the arteries, he would survive the operation. We accordingly made the necessary preparation; placed him on a table on his right side, with his head low, to guard against faintness. Ether was administered by a young surgeon dentist, by the name of Heald, and Dr. Jefferson Carter assisted us in the opera-

tion, which was performed as follows, viz.:—Commenced at a point two and a half inches below the ear, and, by two curvilinear incisions, divided the integuments anteriorly and posteriorly towards the axilla, the centre of which could not be reached by about two inches each way, on account of the fixed position of the limb and the size and pressure of the tumor against the side. On slipping back the integuments, or rather the skin (for there was no cellular nor adipose tissue), the tumor presented a disorganized, though smooth surface, of a dark livid color, emitting the same odor as when covered by the skin. With our fingers and the scalpel, we soon brought down that part of the tumor which laid over and under the clavicle, and in the fossæ supra and infra spinata of the scapula, and with the saw removed such portions of these bones as were implicated in the disease, about two inches in length of each bone. Here we secured two small arteries, the posterior and superior scapular, which, coming from the subclavian, would continue to bleed after securing the axillary, which we had not yet come to. Proceeding to remove the diseased mass, we found that it had pushed itself deep under the scapula and clavicle, destroying the subscapulan, subclavian, and pectoral muscles, and that it had insinuated itself between the three upper ribs, among the intercostal muscles, and, in all probability, its work of destruction was going on within the ribs. We now came down to the axillary artery, and secured it by ligature before dividing it, at the point where it assumes its name, within an inch from its exit from between the scaleni muscles. Here, too, we secured, in like manner, the axillary vein; it being large, and, fearing that it was distended beyond the capacity of the valves, we thought it safer to secure it before dividing, and thereby avoid the danger of retrograde hemorrhage, and the disastrous consequences of the rushing of air into this peculiar and important vein. These vessels and the brachial plexus of nerves seemed to be sound, with the exception of the enlargement of the vein, and a slight discoloration of the neurilemma of the nerves. These vessels and

nerves were then divided, and the limb removed by forming, with one stroke of the knife, the lower angle of the wound.

The flaps, which came together well, were secured by sutures and straps in the usual manner, and the patient replaced on his bed, apparently as comfortable as when taken from it. Not having lost a drop of blood from the principal artery, and but a very few jets from the smaller ones, he was not exhausted by hemorrhage.

He was subsequently under the care of Dr. Dunnells, of Harrison, by whose judicious treatment he was made comparatively comfortable till his death, which occurred on the 27th January, 1848.

I saw him but once after the operation, and this was on the 24th Nov. Up to this time he had been quite comfortable. The wound had united by the first intention the whole extent, excepting at the lower angle, where the ligatures had passed out. There was, at this time, a small tumor forming under the skin, near where the clavicle was removed; but, as it gave him no pain, and there were now unequivocal signs of permanent disease of the lungs, which was rapidly progressing, I thought it not expedient to remove it. This

secondary tumor grew considerably, and remained hard till a short time before he died, when it became softer; but some time before this softened the purulent discharge from, the lungs commenced, and he soon ran down.

NOTE.—In a letter from Dr. Dunnells, in answer to one I sent to him, he writes as follows:

"I first saw him (Mr. Hobbs) Oct. 14th, 1847. My impression of his case was, that if he could lose the entire disease about the shoulder, it was all the chance there was of his living long, and that was uncertain. With the hope of palliation and protraction of life alone, I advised the operation.

"I think the operation did all that we expected from it. It relieved him very much. The wound closed over, with the exception of a small opening at the lower angle.

"The probability in my mind was, that if the operation had been earlier performed, before the lungs became diseased, while all the diseased parts could have been taken away with safety, we might have saved him.

"The purulent discharge from the lungs commenced some time before the softening of the external tumor, and he sank from exhaustion."

ART. V.—*On Trephining in Infancy, with the Report of an Operation performed at a very early Age.* By JAS. L. VAN INGEN, A. M., M. D., Schenectady, N. Y.

ALFRED, a child of Garret Van Vranken, of Schenectady, aged twelve months, while playing at a back door which was guarded by a board placed against the casing, was precipitated, head foremost, down two steps to the ground, the board being first displaced, and the child impaling itself on a "tenpenny" nail which was sticking in it. The nail entered the right side of the head, near the right parietal protuberance, and considerable force was required to remove the child from the board. The accident occurred at 6 P. M., Sept. 20, 1847. Professional assistance was sought in consequence of *apprehension* of danger, the child being apparently well.

At 7 o'clock, P.M., I first saw the case. The pulse was frequent, but there was a total absence of any other extraordinary symptoms.

Upon an examination of the wound with a probe, I found the nail had pierced the skull and membranes, and entered

the brain to the depth of two and one-quarter inches, measuring from and including the scalp, which was normal as to thickness.

I left directions to have the child closely watched, and to be informed immediately, should any alarming symptoms show themselves.

At midnight the child vomited, and had slight general convulsions, which lasted about half an hour, and then ceased entirely, their lack of severity not alarming the parents sufficiently to induce them to apprise me of the fact. The remainder of the night the child slept naturally, having neither stertor nor convulsions.

Sept. 21.—At nine o'clock, A. M., was called in consequence of the return of unfavorable symptoms. About this time the child commenced vomiting, and had convulsions of the left side of the body until about ten o'clock. At ten o'clock, there was paralysis of the muscles of the left side, except those of the face, which continued their convulsive action until half-past ten o'clock, when the child became insensible, and commenced sinking.

I then advised trephining to remove the small portion of bone displaced by the nail, which I regarded as the immediate and sole cause of all the unfavorable symptoms, acting simply as an irritant; but a consultation, which was called by the parents, decided that the operation was unwarrantable, and held out no reasonable hope of benefit:

1st. Because so small a portion of the bone as the end of the nail displaced could not produce such grave symptoms.

2d. That a child's brain could accommodate itself to infinitely more pressure.

And 3d. The probable cause of the convulsions, depression and sinking, was not the simple irritation of so minute a portion of the skull as had been displaced. Indeed, it was regarded as improbable that any displacement existed, for even if the inner table had yielded in the first place to the pressure of the nail, it was supposed that, from its great elasticity at so young an age, it had resumed its natural posi-

tion. The symptoms were, therefore, attributed to the penetration of the nail to so great a depth into the substance of the brain.

Dr. Chas. Martin, at present attached to our naval medical service, differed from the opinion of the other physicians in consultation, and insisted that the operation held out not only the sole hope of recovery, but a rational certainty of such an event. These were my own views, but the other physicians persisting in their opinion, and the parents refusing to consent to an operation, Dr. Martin and myself were left in a minority, and we simply watched the progress of the case.

At 12 o'clock, M., the skin was cold; there was no pulsation perceptible at the wrist, and but feebly at the corotids. I again urged the operation, and those who had opposed it now consented, because the child would CERTAINLY DIE, and *the operation would only shorten its life an hour or two.*

Operation.—The child was perfectly insensible, the breathing scarcely perceptible, and apparently it did not feel the incision in the scalp to expose the bone. When the bone was fully exposed, a small irregular opening was discovered, sufficient to admit the passage of the nail, the sides of which gradually approximated each other at the bottom, the nail having entered obliquely. Upon removing, with the trephine, the portion of bone represented in the cut (*c*), the depressed portion of both tables represented in the cut (*b*), was discovered, the degree of depression being irregular, from the oblique entrance of the nail. The appearance of the parts is very accurately and elegantly represented by the artist (Mr. Holton) in the cut (*a*).

Immediately upon the elevation of the portion of bone the child became sensible, the muscles of the left side of the face commenced twitching, then those of the whole left side of the body, and, immediately after, those of the whole body were affected with a slight convulsive movement; the pulse returned at the wrist, the heat to the surface, and the child had free use of its limbs, with the exception of the arm of the left side, which was partially paralyzed.

(*a*) A lateral view of the portion removed, showing the actual amount of depression.

(*b*) An internal view of the portion removed, showing the two small portions of both tables of the skull depressed.

(*c*) An external view of the portion removed, being a portion of the right parietal bone near the parietal protuberance, showing the opening in the bone, caused by the entrance of the nail.

The wound was then brought together and dressed, the child removed to a dark and quiet room, to secure the brain from all disturbance, from light or noise, and then left with but one attendant. At 12 o'clock, M., the child had a slight convulsion—(℞. Sulph. Morph. gr. 1-16) and the remainder of the night it slept quietly.

Sept. 22.—The day after the operation, the use of the left arm was perfect.

Sept. 28.—The child was removed to the family room, and the wound healed entirely in about three weeks. No further medication was used after the morphine of the first night, subsequent to the operation, with the exception of one drachm of castor oil, and the application of rum and water to the head.

April, 1854.—The child is healthy, has never had fits, spasms or spasmodic action of muscles since his recovery from the operation in Sept., 1847.

Remarks.—There are some points connected with this case worthy of a passing comment. In the first place, it seems surprising that so slight a depression should be productive of such serious symptoms. So numerous are the instances on record in which the most extensive mutilations of the brain have caused but trifling inconvenience, and have been followed by a speedy recovery, that it could hardly have been expected, especially in so young a patient, that the case would have assumed so grave an aspect.

We are inclined to believe, after a considerable examination of the subject, that our patient was the youngest in which the trephine has been applied. Many of our leading authorities inculcate the doctrine, that in consequence of the peculiar condition of the bones in children, particularly very young children, the operation of trephining can seldom be indicated. For example, Mr. Guthrie thus expresses himself on this point.

"There is an essential difference between a depression of the skull in a *child* and in an *adult*. In the child the inner table is not brittle—it bends equally and does not break; it very often does little mischief when depressed, and gradually recovers its level. The brain in young persons is softer, less consistent, and can accommodate itself more readily to pressure for a limited time, without ultimate mischief, than the brain of an adult; so that the most urgent symptoms can alone authorize the application of the trephine in children, and in young persons under fifteen or sixteen years of age. The same bending of the long bones in young children is often observed at the same period of life." (*Commentaries in Surgery*, p. 337.)

Our patient forms an exception to another rule laid down by Mr. Guthrie (*op. cit.*, p. 345) and other writers, that young persons bear with impunity a greater degree of pressure and irritation than those of mature age, and we are strongly disposed to question his assertion that by far the greater number of cases in which recovery has taken place after fracture and depression of the skull, with injury of the brain, and loss of its substance, have occurred in children or in persons under the adult age. No one will dispute the fact, however, that in young children indentations of a large surface of the skull may occur to an astonishing extent, and yet no symptoms of pressure shall be manifested. Mr. South, in his edition of *Chelius*, vol. i., Am. Ed., p. 431, relates a remarkable case of this kind, the upper part of the lambdoidal suture having been so deeply indented "that the bowl of a dessert spoon would easiliy lie in it," and yet this child never had a bad

symptom, but left St. Thomas's Hospital perfectly well, although the skull remained indented as at first. Between these cases, however, and punctured or penetrating wounds of the skull, there is a vast difference. Proof of this is furnished by Mr. Guthrie himself. We refer to the case reported by him in which a boy was struck by his playfellow with the end of a thick iron wire, which passed under the upper eyelid, between it and the eye, penetrating the brain. This child died on the sixth night after the accident, no operation having been performed. He remarks, in addition, that he has seen two other cases in children of a similar character, and terminating in the same manner. (*On Injuries of the Head*, pp. 137, 138).

Again, Sir Astley Cooper teaches, that when pieces of bone penetrate the brain, if symptoms of pressure do not exist, they should not be removed, as an operation for this purpose would be likely to give rise to extravasation of blood. —(*Lectures on Surgery*, by Tyrrell, vol. i., p. 315, Lond. Ed.) Now, suppose that the wound in the case of our patient had produced no immediate unpleasant effects, is it not almost certain, that, in after years, if the depressed fragments had been permitted to remain, severe cerebral irritation would have been the result? Had we trusted to depletion, and other antiphlogistic measures, we are satisfied that the result in our case would have been similar to that in the instances referred to by Mr. Guthrie.

This course was likewise unsuccessfully pursued in the case detailed by Mr. Liston in his *Lectures on the Operations of Surgery, &c.* Edited by Dr. Mutter, 1846, p. 87. In this instance, a boy, twelve years of age, fell upon a nail in the door, which penetrated his skull near the right parietal eminence. He felt giddy at the time, but was not completely stunned. Swelling of the scalp followed, with some pain and tenderness, for which leeches were applied, and purgatives administered. On the sixteenth day he became delirious; and, for some days afterwards, he appeared drowsy, had frequent vomiting, dilated pupils, &c., for which symp-

toms Mr. Cooper applied the trephine, and the operation was followed by complete success. The dura mater beneath the puncture was found thickened and inflamed, and presented a small aperture through which fetid pus flowed freely.

In conclusion, we would remark, that our patient, now nearly seven years after the operation, most beautifully exemplifies the possibility of a closure of the orifice made with the trephine, by ossific deposit, as scarce a vestige of it remains uncovered by bone, and we have every reason to hope that, in a few years more, the opening will thus be completely effaced.

ART. VI.—*A Case of Congenital Absence of the Parieties of the Bladder and Abdomen.* By DR. WALSH, East Brooklyn, N. Y.

ON the 7th of March, 1854, a strong, healthy woman, the wife of a laborer residing in Walworth-street, East Brooklyn, gave birth to a male child, in which the abdominal wall and the front portion of the bladder are totally absent in the mesial line, the rectus abdominis being covered over, for about two inches square of the lina alba, with a red, spongy or fungoid-looking mass, covered with mucous membrane, and bleeding very readily on being touched roughly or rubbed. On the surface of this mass, which presents in reality the mucous membrane of the bladder, are two small openings for the mouths of the ureters, which keep up a continual moisture and irritation on the exposed membrane. The contraction of the surrounding parts acting also on the urachus, probably has drawn down the umbilicus much nearer than usual to the pubes.

Separate from this malformed bladder, towards the pubes, is another ill-looking, red mass, which, after close examination, you trace out to be an effort at the formation of a penis. It is oblong, deeply grooved, or rather cleft, in the centre, and on each extremity is fixed a very small portion of the glans penis, and a trace of the frænum also remains; but no prepuce. The urethra is totally absent; there is no appear-

ance of a prostate; the scrotum is very perfect and thoroughly corrugated by the dartos, and the testes are also present. The child enjoys excellent health, and bids fair to maintain his existence. The parents are healthy, and by their account the child inherits no taint, syphilitic, scrofulous, or otherwise, from either themselves or their families.

A case somewhat like the foregoing, in a young man of rather delicate appearance, was displayed at the Cliniques in New-York in 1846, and attracted much attention at that time. In him the ureters opened on the surface of the skin, on either side of the penis, which was formed of the glands only; there was no urethra, the raphe passed deeply through the scrotum, and the tissues, being puffy, gave a pretty good imitation of the labia and clitoris of the female. The testes were present and settled the question of sex.

In the *Southern Journal of Medicine* for Jan., 1847, Dr. Hardy, of Nashville, N. C., has given an interesting case similar to both recited above, illustrated by a splendid lithograph. His case was fourteen years of age before he could determine the sex, and then, he says, "the testes first began to be developed." The red, fungus-like mass, was in this instance on the site of the mons veneris, and presented on its upper part the fissure for the urethra, as in the first case above described; the surface of it bled on the slightest irritation. There was no portion of the red mass that could be pointed out as a malformed penis. The person was delicate in form and manners, bashful, and displayed no sexual desire.

In the *American Medical Intelligencer* for July, 1840, Dr. Curtis gives a case of the same kind. Dr. Dunglison, the editor, in introducing the case, mentions two others like it, then living in Philadelphia.

Dr. Baillie in his *Morbid Anatomy* mentions a like case, which he saw, and refers for the details to the *Medical and Chirurgical Transactions*, where he had reported it. In Dr. Gross's *Pathological Anatomy* there is nothing on the subject; congenital absence of the urethra, and its opening in various

unusual positions, is noticed, but no nearer approach is made to a description of the foregoing malformations. Baillie takes no notice of congenital deficiencies or malformations of the penis, which is a constant occurrence in cases like the foregoing.

Meckel, in his *Anatomy*, gives a full and satisfactory account of all such cases. No notice is taken of these cases in any of our systems of midwifery, anatomy, &c., except in the above-mentioned instances.

FRANKLIN AVENUE, *East Brooklyn*, March 23, 1854.

ART. VII.—*A Critical Examination of a Pathological Specimen of Softening of the Intervertebral Cartilages.* By LOUIS BAUER, M. D., Member of the Royal College of Surgeons, England, late Surgeon to the Royal Orthopœdic Institution at Manchester, &c., &c.

Dr. LEWIS A. SAYRE, Surgeon to Bellevue Hospital, exhibited to the Pathological Society of New-York, on the 8th inst., a specimen of more than ordinary interest. It represents the lower half of the spine and sacrum of a youth, 21 years of age, who suffered for about 18 months of caries in that organ, attended with consecutive absorption of the lumbar vertebræ, and who died with symptoms of retention of urea in the blood.

The history of the case does not furnish any reliable evidence as to the origin of the disease, nor has the post-mortem examination of the vital organs elicited any proof to that effect. This, however, does by no means diminish the importance of the specimen, as regards pathology in general, and spinal affections especially.

The specimen embraces the five lower thoracic, all the lumbar vertebræ, and the sacrum. On the outside, right and left, there are large cavities between the peoas and quadratus muscles, connected both with a carious ulcer of the spine and the surface. In its passage, the matter had superficially corroded the left transverse process of the third lumbar vertebræ. The left kidney was somewhat adherent to the spine by rigid and short fibrous bands; traces of fatty degeneration were also perceptible in that organ.

The spine itself, anteriorly and longitudinally divided, presented in its fresh state the following appearances: no engorgement of blood; no

tubercular deposits; no ordinary signs of inflammation, nor any trace of inflammatory products; the fibro-cartilages were very much softened, being almost gelatinous, out of which oily and adhesive liquid could be squeezed; the color of both the cartilages and the infiltrated liquid was of a whitish tint. The elasticity of the cartilages had entirely disappeared; they were apparently of different consistence; nearer to the carious ulcer, appearing to be softer than the more distant. Between the second and third lumbar vertebræ they were carious, disintegrated, more superficial on the inferior surface of the second, but more substantial on the inferior surface of the third. In the centre of the third lumbar vertebral body, there was a small and movable sequestrum, and outside of that bone the commencement of an osteophyte became observable. The corresponding intervertebral cartilage was almost entirely destroyed, the anterior laminæ only being left; but those vertebral bodies had not approximated, being kept separated by the articular process. On the inferior surface of the eleventh thoracic vertebræ, about its centre, there was a small carious excavation surrounded by dense osseous tissue, (eburnated, Jones Tomes) and filled with an elongation of cartilage. Finally, it deserves to be mentioned, that the spine was almost straightened, the normal curves having nearly disappeared. This latter condition of the spine was by no means the effect of death, being found also in the cast, taken in plaster from the living patient by myself.

The microscopical examination, kindly aided by Prof. Alonzo Clark, presented the unmistakable marks of textural disintegration and fatty degeneration of the intervertebral cartilages in different degrees of advancement, from the breaking up of the fibrous texture, down to nucleated, elongated cells, corpuscles and fat globules; but there was no evidence of tubercular matter.

The nature of the case, and the peculiar pathological conditions of this specimen, give rise to most important considerations.

In the first place, it is of the utmost importance to determine whether the disease originated in the vertebral bodies, extending subsequently to the intervertebral cartilages, or *vice versa.* In examining this specimen, it strikes one forcibly that the carious destruction is not only of limited extent, and comparatively superficial, but is also confined to three vertebræ. Moreover, the caries, at the inferior surface of the eleventh thoracic vertebra, is in its incipient stage, presenting in its immediate vicinity eburnated osseous structure, which has been recognized by Jones Tomes as characteristic of the earliest

phase of caries. The excavation is but trifling, and would scarcely receive a small-sized pea.

The remaining seven vertebræ were, to all appearance, in normal condition. But the intervertebral cartilage between the second and third lumbar vertebræ is almost consumed, the anterior portion only being left. And the other intervertebral cartilages, (notwithstanding that their corresponding vertebral bodies are in perfect integrity,) are disintegrated and degenerated to a greater or less degree, obvious to the naked eye, as well as to microscopical inspection. Had the bones been primarily affected, the disease of the cartilages would have been confined to the neighborhood of the carious affection, and the degree of disorganization of the former would bear comparison with the extent of caries.

According to Mr. Toynbee's researches (*Philosoph. Transac.*, 1841), the intervertebral cartilages are far less liable to spontaneous decomposition, absorption, and disintegration than the vertebræ; hence, it is not uncommon to find the intervertebral disks entire when the adjacent bodies of the vertebræ have been destroyed by disease. The specimen, however, exhibits the direct reverse. Again, it cannot be argued that caries of the lumbar vertebræ could become the proximate cause of degeneration of remote cartilages. Thus it is evident, that the latter have been primarily diseased, and that the vertebral bodies have been involved consecutively.

The next point of consideration is, as to the nature of the disease of the intervertebral cartilages in the present case. All that can be made out, in reference to the fibro-cartilages of the spine, is change of color, consistency, and organization, from the higher to the lower order, increase of saturation with serum, and the formation of fat globules.

There are no signs of ordinary inflammation either in the intervertebral disks or the adjacent parts. It is also doubtful whether the local pains which the patient suffered, were consequent upon the original disease or its ultimate effects, especially the formation of consecutive abscess.

Authors of note assert that cartilaginous tissue is not liable to inflammation, on account of not possessing blood-vessels and nerves. Later and more minute anatomical investigations have, however, shown that at least fibro-cartilages receive some minor blood-vessels, though they do not ramify in its parenchyma. But some modern writers entertain the idea that inflammation is but a perverted nutritive process, excited by morbid irritation. According to Redfern, Goodsir, Gurlt, Carpenter, Paget, Virchow, and others, cartilaginous structure,

is just as liable to inflammation as any other, provided that the formative action is carried on by some means, though the signs of inflammation, and the subsequent structural changes are necessarily influenced by those peculiarities which the nutritive process present. Thus we find, in conformity with the observations of Redfern, Goodsir, and Gurlt, the inflammatory changes confined to the cartilaginous fibres and cells—the former broken down, partly dissolved and separated; the latter enlarged, deformed, the nuclei degenerated into corpuscles, and the hyaline substance infiltrated with serous fluid. In comparing those statements of the before-mentioned authors with the pathological peculiarities of the specimen under consideration, I am inclined to believe that a *low grade of inflammation* has been the nature of the disease. But, however opinions may differ on this point, it will be unreservedly admitted, that the character of that malady is debility, is minus of action, resulting in structural disintegration. And this is decidedly of great practical weight in reference to the treatment in analogous cases.

A third point worthy of discussion is the straight form of the spine. A straight vertebral column, at the age of twenty-one years, must be considered a deformity, for there should be two curves, respectively, in the thoracic and lumbar portions. This deformity is undoubtedly attributable to the entire loss of elasticity in the intervertebral cartilages, and at the same time to the recumbent posture the patient had adopted during the last fifteen months of his illness. In that position, the spine had but to yield to the weight of those organs which pressed upon it anteriorly, and to adapt itself to the mattress. To this circumstance may be attributed the absence of approximation between the second and third lumbar vertebræ, which would have been unavoidable in the erect posture. The fact that (according to the above statement) the spinal column had assumed a straight form, is a sufficient proof that the opposite deformity would have been acquired by the patient in the upright position. At this point I am naturally led to compare the views of Nelaton with the fact before the reader. This distinguished French surgeon states that posterior curvature and Pott's disease, are invariably the effect of tubercular deposits in the cancellated tissue of the vertebral bodies. Now this specimen is at least one of those exceptions, which I occasionally meet with. Posterior curvature of the superior thoracic portion of the spine not unfrequently occurs in apparently healthy, and even blooming children, at the age of three to six years, where no scrofulous or tubercular affection can be detected. There are no symptoms of inflammation;

the pain is principally peripheral either in the epigastric regions or in the lower extremities; the latter become occasionally paralyzed, owing to pressure upon the intervertebral nerves. The patients may become emaciated and assume the appearance of old people. The spine is unusually flexible, though not commonly, in the distorted portion, being kept stiff and immovable by dorsal muscles. Left to themselves those cases often recover, retaining, of course, a deformity of greater or less extent; the spines consolidate, and the patients may attain a considerable age, affected usually with asthma. But if a patient is kept for some length of time in a horizontal position, in the enjoyment of good air and food, the progress of that deformity will be arrested, and being suspended in an appropriate apparatus, head and legs being used as weights, the deformity will even diminish and the general health improve remarkably. Such cases I have had in my Institution, and the results of that treatment have proved highly satisfactory.

I do not conceive the possibility of bringing cases of this description in any relation to tuberculous deposits. Miliary tubercles, as long as they remain latent, will not interfere with the shape of the vertebræ, and can therefore not come under consideration as causes of spinal deformity. But if the tubercular deposits augment, gradually soften, and subsequently involve the surrounding cancellated tissue, inflammation and caries will ensue, constituting at once a malady that does not come under the series of posterior spinal deformities, which I have in view. Nor can it be comprehended, why a horizontal posture and horizontal suspension of the patient could arrest the progress of the disease, and diminish even its material extent, if tubercles had misshaped the vertebral bodies. For this reason, I believe that cases of this description have nothing to do with tuberculous disease, and must be considered as the simple effect of softening of the intervertebral cartilages, associated with loss of their elastic properties. These views I have entertained for a long time, but I have never before had the opportunity to corroborate them by post-mortem examination.

I consider, therefore, this specimen as one of the greatest pathological importance; for it confirms the occurrence of idiopathic disease of the intervertebral cartilages, and establishes the fact that the mere loss of elasticity becomes the source of deformity, and also that even caries may result from such pathological conditions. According to such facts, Nelaton's opinion requires its limitation. In fine, it can also be said that the much-applied local derivation can hardly give any hope of success, but must render the debilitated state still worse

BROOKLYN ORTHOPÆDIC INSTITUTION, March 2d, 1854.

ART. VIII.—*Practical Observations on the Use of Quinine and Opium in the Treatment of Hip-Disease.* By NELSON NIVISON, M. D., Tompkins County, N. Y.

AMONG the various diseases that fall within the province of surgery, perhaps none are fraught with greater interest than those that pertain to the larger articulations. From the importance of these parts to the animal economy, from the peculiar character and conformation of the tissues involved, from the usually obstinate and intractable nature of the diseases themselves, and particularly from the diverse modes of treatment that at different periods have been advocated, this class of diseases has ever commanded and still claims a large share of the attention of the most eminent surgeons. Conspicuous among them are those of the ilio-femoral articulation; and of these probably none assumes a higher degree of importance than that usually denominated "Coxalgia" or "Hip-Disease." Under any system of treatment that has hitherto been devised, this disease is frequently unsuccessfully managed in its earlier stages, and, if allowed to proceed to those more advanced, is always lingering, generally extremely painful, and not uncommonly fatal. Under such circumstances, we conceive that any individual, who shall be able to reflect the most feeble ray of light upon a subject so obscure, will not have labored in vain. It is extremely probable that in our present effort we shall fail to do even this. We nevertheless propose to give the results of our experience in a few cases that have recently come under our observation. We shall indulge in no vague speculations, but content ourselves by a simple statement of facts, and such inferences as appear to be fairly deducible therefrom.

The first case that I shall notice was a child two and a half years old. I was called Oct. 18th, 1851. I got from the mother the following history: The child had usually been healthy till about six weeks previous to my visit, when it was attacked with a pretty severe fever of a remittent type, which lasted about ten days. A physician was called, who administered some mild remedies, under the use of which the febrile symptoms gradually subsided. The child, however, did not improve in appearance, strength, or appetite, but seemed rather to decline. In a few days after the more violent febrile symptoms had subsided, the child began to manifest symptoms of inability to walk or even stand, would fall frequently, and cry violently as if in severe pain; the sleep was disturbed, and the patient became rapidly emaciated. About this time, the left leg was observed to be somewhat bent at the

knee, a day or two later at the hip, with considerable rigidity of the muscles. It would not allow the limb to be moved if possible to prevent it; every accidental movement was productive of much pain. At this stage of the matter, the mother had occasion to spend a couple of weeks from home; and, hoping the child might be benefited by the change, she took it with her. The symptoms grew worse. A physician was called. He pronounced it a case of hip-disease, and treated it accordingly; precisely what the treatment had been, beyond the application of a blister and some Dover's powders, I could not ascertain. Under the treatment, however, there was considerable amelioration of the symptoms. The child was brought home, and the treatment discontinued. In a few days all the unfavorable symptoms returned, with increased severity, and continued steadily to grow worse to the time of my visit. I found the little patient much emaciated, with a pallid countenance, a hectic flush on the cheek, and, although at the time sleeping somewhat quietly in the cradle, I noticed those convulsive twitchings, and distortions of the features, that told but too plainly of the violence already done to the integrity of the nervous system. Pulse small, quick, frequent, and somewhat irregular; the left thigh was drawn to nearly a right angle with the body, and the leg was flexed on the thigh. The whole limb was in a state of abduction; this, with a certain amount of apparent shortening, gave the limb somewhat the appearance of a dislocation, with the head of the femur on the dorsum ilii. The slightest movement of the limb awoke the patient, and his protracted cries were indicative of extreme anguish. I attempted to examine the limb, with a view to determine its true condition, but every movement so manifestly aggravated the sufferings of the little patient, that I was constrained for the time being to abandon it; but from the history and the appearances before me, I saw no reason to doubt the correctness of the diagnosis of the last medical attendant. The parents appeared healthy, but both acknowledged the strumous habit in their ancestry and family kindred.

In summing up the matter, the case appeared to be the sequel of an idiopathic fever, which appeared not to have been very thoroughly treated or satisfactorily overcome. While it existed in this form, it could, doubtless, have been completely removed by a liberal use of the sulphate of quinine. Now, if this diseased action is but a different manifestation of the same morbific agency, and no structural disorganization has yet occurred, why should it not now yield to the same remedy? True, a very considerable amount of inflammatory action, with its attendant fever, still exists, and, furthermore, the much re-

spected authority of precedent would lend but little aid; I nevertheless resolved to give it a trial. I ordered a grain of quinine with $\frac{1}{6}$ gr. of morphine to be given every six hours, with additional doses of a solution of morphine, if the pain is not entirely quieted and rest procured by the powders. A stimulating liniment was ordered to be rubbed on the affected part twice a day.

Oct. 20th.—The child has been much more comfortable; rested well, is less feverish, appetite slightly improved. At this visit, I was able to make a tolerably satisfactory examination of the affected limb. Considerable motion can be made at the knee, but no movement of the hip-joint can be borne. In whatever position the child is placed, the thigh remains at the same angle with the body. Continue the treatment.

Oct. 23d.—The symptoms all materially improved; no fever, appetite good, sleeps well, will allow slight motion of the hip-joint without much complaining. In addition to the former treatment, give iodide of potassium, and apply a blister to the hip.

Oct. 26th.—Continues to improve. Blister drew well, but produced considerable disturbance of the nervous system, which was soon quieted by additional doses of the morphine. Continue treatment.

Oct. 28th.—Still improving. Stomach and bowels somewhat irritable. Omit the iodide of potassium. Ordered quinine, gr. xvi., sulph. acid dil. gtt. x., aqua pur. ℥iv. m. A teaspoonful four times a day; an occasional dose of laudanum if necessary, to procure rest.

Nov. 4th.—Improving rapidly. The limb can be brought nearly in a right line with the body. Occasionally puts the foot to the floor and makes some rather unsuccessful attempts to walk. Continue the solution of quinine.

Nov. 11th.—The limb can be moved in almost any direction without pain. The patient can walk about the room; appetite continues good; he is allowed a generous diet, and is gaining flesh. Nothing of special interest occurred after this. The solution of quinine was continued a week or two longer, and the patient was dismissed cured.

CASE 2 was a boy 12 years old. In the latter part of May, 1853, he was thrown from a wagon, by which accident he received considerable injury of the right leg, which appeared to be mostly in the vicinity of the ankle-joint; pain was complained of along the course of the fibula, and the parts were considerably swollen. But the affair was regarded as trifling, and, aside from the application of severe stimulating embrocations, and advising that the parts be kept at rest, nothing was done.

I heard nothing more of the patient till the 18th of June following, when I was called to visit him. I was told that he had suffered considerable pain in the limb most of the time since the injury; he had been able to walk but little. The swelling had nearly subsided, and the pain was now mostly in the vicinity of the knee; there had been more or less fever every day, generally worse on alternate days; he had passed restless nights, lost his appetite, and was losing flesh, and becoming peevish and fretful. He had a pallid countenance, a frequent pulse, and a furred tongue. The bowels being confined, I ordered a laxative, and agreed to see the boy the following day.

June 19th.—Was called early this morning to see the boy; found him complaining of excruciating pain in the knee and hip. I learned that he retired last night apparently as well as usual, and slept quietly during the early part of the night, but towards morning suddenly awoke, complaining of this intense pain, which had been unintermitting up to the time of my visit. The leg is now rigidly flexed upon the thigh, and the thigh on the pelvis, and the whole limb in a state of *abduction*, or drawn *from* the other. This position, I believe, is rather unusual in hip-joint disease. I notice, however, that Prof. March, of Albany, in his very valuable paper, read before the American Medical Association, mentions a case where the position of the parts was precisely similar. The boy refers the pain principally to the *knee*, and believes this joint to be the seat of the difficulty; fomentations have been freely applied to this part without relief. I found, however, that *motion* of this joint is less painful than of the hip. This directed my attention to that joint, and further investigation satisfied me that here was the real difficulty. The fact that the *pain* was mostly in the knee, rather confirmed this view of the case than otherwise, and again the previous constitutional disturbance had been altogether disproportioned to the slight injury in the vicinity of the ankle, and furthermore an inflammation of the hip-joint usually comes on rather insidiously. This, in connection with the fact that the boy was evidently of a strumous habit, could leave but little doubt that we had to deal with a case of hip-disease.

Being firmly impressed with the conviction that, in the former case, the sulphate of quinine, in combination with the opiates, were the chief agents in removing the morbid conditions of the system, upon which this species of diseased action usually depends, I determined to test it still further in this case. I therefore directed two grains of quinine, with a grain and a half of opium, to be given immediately, and to be

repeated every six hours, and ¼ gr. of morphine every hour till the pain is subdued.

June 20th.—The boy is more quiet, has taken the powders regularly, but was obliged in addition to take the morphine very freely. The limb remains in the same position, will admit of some motion at the knee, but the least movement of the hip-joint is exceedingly painful; considerable tenderness is manifest on pressure about the hip. Continue the powders. Rub the parts twice a day with comp. camph. liniment.

June 22d.—Yesterday the boy had an uncomfortable day, several paroxysms of pain occurred that were represented as almost intolerable; used the morphine very freely; slept a part of the last night rather quietly, but if he chanced to make the least movement of the affected joint, the pain produced thereby awoke him instantly, and he was usually unable to sleep again till the morphine had been repeated. He is comparatively comfortable to-day, the knee-joint can be moved without pain, but can bear no motion at the hip; countenance more animated, no fever, tongue cleaner, appetite somewhat improved. Owing to the extreme pain produced by change of position, the bowels have not been opened in several days. Continue the powders; give pill hydrg. gr. viii., at bed-time; follow with castor-oil in the morning.

June 24th.—The boy is better. When perfectly at rest complains of no pain whatever. Had one or two pretty severe paroxysms of pain yesterday; was obliged to use the morphine; with that exception, the powders of quinine and opium have kept him comfortable; will allow a limited motion of the hip-joint. The tenderness about the joint is diminishing. The knee is no longer painful, appetite good, tongue nearly clean. Continue the powders, apply a blister to the hip, and allow a generous diet.

June 27th.—Continues rapidly to improve; considerable freedom of motion is allowed at the hip; succeeded in bringing the affected limb nearly *parallel* to the other, without producing much pain. There is marked improvement of the general health; the morphine has been used but two or three times since last visit. Continue the quinine and opium.

June 29th.—Still improving. The limb can be restored to its natural position, and moved in almost any direction, with but trifling pain. Reduce the powders to ℞. quinine, opium ää. gr. j. mix., one every six hours.

July 4th.—The boy can walk about the room; but complains occa-

sionally of an obscure pain in the hip-joint. Take a grain of quinine three times a day, with an occasional pill of opium if necessary.

July 10th.—The patient is apparently well; ordered some vegetable bitters, and discharged him. He has enjoyed good health up to the present time.

CASE 3 occurred in August, 1853; the patient was a little girl about six years old. At my first visit, the mother informed me, that about two weeks previous, in climbing a fence, and endeavoring to reach the fruit of a cherry tree, she fell to the ground, striking upon the left hip; but beyond a slight limping, and occasionally a little pain, nothing of special importance occurred till the time I was called. I then found her complaining of excruciating pain in the left knee and hip; this pain had come on suddenly, and at first in paroxysms, but had now become constant; at each paroxysm the limb was drawn more and more from its normal position, and when I first saw it, it had assumed a position corresponding precisely with that of the last-mentioned case. The mother said she had always been a "weakly" child, and from appearances, I was satisfied that she was of the strumous habit. The subsequent history and treatment of this case correspond so nearly with the foregoing case that I deem it unnecessary to give the details. The only essential difference in the treatment was that this case was treated *exclusively* with quinine and opium; no counter-irritation or local treatment of any kind was made use of. The case terminated in health in about three weeks.

It is believed that a careful review of the foregoing cases will justify the following conclusions:

1st. That they were cases of genuine hip-disease in the early stages of development.

2d. That the removal of the diseased action was mainly owing to the free use of opium and quinine as remedial agents.

In regard to the diagnosis, we think, so far at least as the first case is concerned, very little doubt is likely to arise. And of the second and third, we know of no disease with which they would be likely to be confounded, unless it should be certain forms of rheumatism. That they were not rheumatic, we think, may be fairly argued, from the fact that they were evidently the result of local injuries, and that, although the pain was somewhat *migratory*, commencing in the ankle and knee before becoming fixed in the hip, which might be considered evidence of rheumatism; the facts nevertheless show that *motion* of the knee-joint, even while the pain was mostly confined to that situation, was far less painful than movement

of the hip; thus indicating most clearly the latter situation as the real seat of the difficulty; and moreover, the *pain in the knee* is enumerated, by almost all writers on hip-disease, as one of the characteristic symptoms of its incipient stages. And furthermore, the fact that, after the acute pain in the hip had subsided, there was still great tenderness on pressure in the vicinity of the hip, which subsided only with the constitutional symptoms, would seem to leave little doubt of the true character of the affection.

Coxalgia, or hip-disease, I believe, is usually regarded as an inflammatory affection; the inflammation is, however, usually of an asthenic character. In order to its full development, some constitutional peculiarity, that shall operate as a predisposing cause, is believed to be requisite. That the strumous diathesis frequently constitutes this predisposition is, I believe, generally conceded. In addition to the predisposition, some well defined exciting cause may usually be recognized. All these conditions are present in the cases noticed. The symptoms were such as characterize the early stages of the acute variety of that disease; and it is extremely probable, had not the morbid train of symptoms been speedily arrested, that ulceration of the cartilages, extensive suppurations, anchylosis, or death, would have been the result.

In regard to the second position assumed, we may remark that, whatever be the diagnosis in these cases, they forcibly illustrate the importance of quinine and opium as remedial agents.

We believe a point has been reached in the progress of our science, in which a liberal use of quinine is no longer regarded as incompatible with every grade of febrile or inflammatory action. Neither is it necessary under these circumstances, in order to give a rational exposition of its *modus operandi*, to invoke its hyposthenic or sedative effects; for I believe it is beginning to be somewhat freely acknowledged that certain forms of inflammation are most successfully managed by a *tonic course of treatment*. Or rather, perhaps, it would be more correct to say that, in certain *constitutions*, almost any inflammation will admit of this course of procedure. I think I have seen cases of acute pleurisy, peritonitis, &c., more promptly and effectually subdued by a few *full doses* of opium or quinine, than they probably would have been by the lancet and its usual accompaniments; and the same is true of other forms of inflammation.

We believe that a deranged *innervation* often plays a more prominent part in the phenomena of inflammation, than has been generally believed; the immediate consequence of this derangement is a disturbance of circulation, of respiration and secretion; those parts of the

organs already enfeebled, are of course capable of making but little positive resistance to an increased flow of blood, and an engorgement or congestion of the vascular tissue of the part is inevitable. Under these circumstances, to restore the *tone* of the discordant nervous system is manifestly one of the first indications. But this is not enough; we have likewise to deal with the consequences of its derangement. The circulatory system, stimulated by its impulsive promptings, has reached a high degree of excitement; this must be moderated and equalized. The sedative effect of the opium fulfils this indication. By a judicious combination of quinine with the opium, the two effects are produced simultaneously; and, by maintaining the action of the remedies, they may be prolonged indefinitely.

To treat the different varieties and stages of certain inflammatory affections successfully, by these remedies, requires a certain degree of boldness combined with much discrimination on the part of the practitioner. To be able to estimate, from the existing symptoms, the precise quantity of each that shall enter the combination to adapt it to a particular case, can only be learned by experience. In cases of severe pain combined with great nervous susceptibility, very large doses of opium will often be found necessary, and it is believed that doses that would be considered unsafe when given alone, combined with quinine, may be given with impunity. The proper dose will usually speedily moisten the skin, equalize the circulation, and eventually restore lost secretion. If the opium should be in excess or disproportioned to the quinine, along with a moist skin, we should probably have cold extremities, slow pulse, &c.; under these circumstances, we should not only diminish the quantity of the opium, and probably increase the quinine, but we may also, for the time being, resort to the more diffusable stimulants, as brandy, camphor, and ammonia. We may further remark that, adopting the tubercular hypothesis in regard to the *proximate* cause of this disease we think we may still philosophically account for the salutary operation of the remedies in question. It is probably generally conceded that no condition of the system is more favorable to the development of tubercle than one of decided *atony*, combined with extreme nervous susceptibility; and, for the removal of these conditions, we perhaps have no better remedies than quinine and opium. But with the pathology of this affection it is not now our purpose to deal. To determine to some extent the value of the remedies in question is our immediate object.

Whatever virtue we may assign to the quinine in the treatment of this disease, we believe the opium will generally be found to be an

indispensable accompaniment; for, independent of its power to soothe the sufferings of the patient, and restore the equilibrium of nervous action and circulation, we believe one of its chief merits will be found to reside in its power to overcome inordinate muscular contraction. To do this effectually and continuously, has ever been considered a great desideratum among surgeons in the treatment of this affection. Indeed, the idea has obtained to a considerable extent, that little beyond this is necessary, in many cases, to effect a cure. This muscular contraction not only produces the deformity, but, by forcing the head of the femur firmly against the acetabulum, an aggravation of the inflammation, with a rapid absorption of the articular cartilages, must result.

The means usually made use of to overcome this forcible contraction of the muscles has been some form of extension and counter-extension by mechanical contrivances. Now, although, in the advanced stages of this disease, in order to accomplish the desired result, this kind of proceeding may be necessary, and, where judiciously used, is doubtless one of the most valuable auxiliaries to any system of treatment, yet we believe, in the earlier stages at least, the object is more certainly and advantageously obtained by the free use of opium; for, aside from the inconvenience and usual dislike of all sorts of apparatus, their effect is often positively injurious.

The muscles *resist* forcible extension and counter-extension. In other words, when any attempts are made forcibly to overcome their contraction, they act with redoubled force; and it is not till their power to contract is *exhausted*, that the benefits of extension and counter-extension begin to be realized. This forcible exhaustion of muscular power, independent of the additional irritation necessarily produced in the situation of the disease itself, and the violence done to the surrounding structures, cannot fail to draw heavily on the latent resources of the system, without which a cure can scarcely be expected under any system of treatment. This rigid muscular contraction is doubtless but the *reflection* of the impression made on the nervous centres by the painful sensations transmitted thence along the nerves of sensation. If this be true, it follows that, if by any means we can prevent the painful sensation from reaching the sensorium, we thereby likewise prevent the reflex action which would otherwise manifest itself in the form of this muscular contraction. The opium enables us to do the former, and the cause being removed, it is obvious that the effect must cease.

ART. IX.—*Case of Complete Prolapsus Uteri in Pregnancy—Safe Accouchement.* By N. CHAPMAN, M.D., Brooklyn, N. Y.

MRS. W., healthy, spare habit, and mother of three children, came under my observation during her second confinement. My attention had been called to nothing unusual in her case. I saw Mrs. W. on the 19th November, 1849; she remarked that her womb had been down for three weeks, with a constant bloody discharge, rather freer than the menses, but natural in appearance. For three weeks, she had been constantly on her feet attending to her household affairs. During the three weeks she had made many efforts to reduce the womb, which from its size and tenderness were ineffectual. I directed her to keep her bed till the next morning, and in the meantime foment the womb constantly, when I would call again and reduce it.

Nov. 20th.—On examination I found the womb of the size of the two closed fists, completely external to the body. My thumb and fingers could meet above its fundus, external to the vulva, having only the inverted vaginal walls and ligaments of the womb between them. When she was erect the womb must have extended nearly to her knees. At the time, I supposed the enlargement of the womb arose from its strangulation and congestion. It is proper to remark, that Mrs. W. said she had been subject since her first child was born to an almost constant prolapsus when she was on her feet, which she never before had found trouble in reducing. I affected the reduction without much difficulty; applied a compress over the vulva, with a T bandage, and directed her to get up after two or three hours.

Nov. 21st.—Immediately on Mrs. W.'s arising, the prolapsus recurred again. I directed her to lie down, and then found the womb more irritable and larger than before. I reduced it immediately, but with considerable difficulty and the exertion of some force. She was directed to keep the recumbent posture and use astringent injections; a putrid discharge followed and continued five days. On the 4th of December she felt life, fifteen days from the first reduction. After this time she was allowed to get up, and I discontinued my visits after the 8th.

On the 15th of March, I was called to Mrs. W. again. She said that she had continued feeling life stronger and stronger every day since I had last seen her; that the womb had been down many times since my last visit, but that she had been able to put it back; that now it was down much worse, and of greater size than ever before, and she could not reduce it. Besides, she had labor-pains that recurred

every ten minutes. I found the fundus uteri as high as the umbilicus; the neck of the womb, external to the genital fissure, something larger than the two closed fists. Through the os uteri, I could feel the child's head resting on the rami of the ischium and pubis. As I failed to reduce the uterus while she lay in bed, I directed her to turn on her face, resting on her knees and shoulders, in which position I easily succeeded. On examination I felt the os uteri dilated to the extent of a circle two inches in diameter. The pains gradually subsided, and in two hours' time, the os uteri had contracted to the size of half a dollar.

On the 29th of March, she was taken in labor and delivered of a strong vigorous female child, weighing six pounds. She must have been at her full term from the development of the child's head; the posterior fontanel was closed, and the anterior was no more open than usual. No prolapsus occurred during the labor, but the womb rested low in the pelvis. Mrs. W. said that the womb had come down every two or three days since the reduction in November, and also that in March, but that by lying down she could reduce it. Probably after the reduction in November the prolapsus was only partial. During her whole gestation, the child's head undoubtedly rested on the perineum, as she remarked that it always seemed to her that she sat on the child, when no prolapsus existed.

She was delivered 130 days after the reduction in November, consequently allowing 280 days for the term of gestation; she was in November advanced 150 days, or 21 weeks and three days, or about five months. At this time, it is to be recollected, when she was five months advanced in pregnancy, the womb had been completely external to her body, hanging nearly to her knees for the space of three weeks; and during this time she continued about her house every day, suffering nothing more than the inconveniences of dragging pains, the discharge, and the obstruction to walking, from the bulk of the womb and its tenderness.

The most important feature of the above case is, that a delicate woman, five months advanced in pregnancy, carried her child for three weeks external to her body; performed all her own house-work during that time, and neither miscarried or suffered much inconvenience, except soreness from the uterus being chafed.

Similar cases may, for ought I know, have been placed on record, but they must be of unfrequent occurrence. They are instructive as showing the powers of nature to accomplish her purposes under the most unfavorable circumstances.

ART. X.—*A Case of Disarticulation of the Femur at the Hip-joint.*

By J. P. STEVENS, M.D., Ontario Co., N. Y.

MR. WM. ALDRICH of the town of Manchester, Ontario Co., about fifteen years of age, received in the year 1848, an injury of the left thigh and leg, which resulted in caries of the bones; commencing at the knee-joint, the disease extended gradually upward and downward, implicating eventually the greater part of the entire limb. The discharge of large quantities of pus during the last five years greatly enfeebled his constitution and undermined the general health. This condition of things seemed to demand the removal of the limb, as affording the patient the only hope of recovery.

Able counsel were summoned to the case, and coincided with this conclusion. Accordingly, on the 1st of Sept., 1853, Dr. H. A. Potter, of Geneva, assisted by Drs. Stevens, of the same place, and Howe, of Vienna, in the presence of several other physicians, performed the operation. The patient was brought under the full influence of chloroform, and the operation of amputation commenced.

As it was thought desirable to save the superior articulation of the femur, in order to facilitate the future adaption of an artificial limb, the point selected for the operation was about three inches below the great trochanter. The surgeon, therefore, proceeded to amputate the leg in the usual manner at this place. On the removal of the limb, the parts about the ilio-femoral articulation were sufficiently exposed to allow of a more satisfactory examination of the remaining portion of the femur. This was also found in a diseased condition like that already removed, the necrosis having extended up to the joint. On consultation, it was deemed advisable to complete the operation by the entire removal of the head of the femur from its socket. This was accordingly undertaken and accomplished without much difficulty. The cotyloid cavity was found free from disease. The flaps were brought together, and the appropriate dressings applied.

The case progressed favorably, the wound healing promptly and with no more than the ordinary amount of suppuration. It is now a little more than four months since the operation was performed, and the parts have entirely healed; the patient has recovered his former flesh, and is in the enjoyment of good health.

This was a case of true amputation of the hip-joint, in the completion of the operation, though not anticipated in its commencement.

PART SECOND.

CRITICAL ANALYSIS.

ART. XI.—*Traité des Maladies du Sein et de la Région Mammaire*, par A. VELPEAU. Membre de l'Institut (Académie des Sciences) et de l'Académie Impériale de Médecine, Professeur à la Faculté de Médecine de Paris, Chirurgien de l'Hôpital de la Charité, etc. Paris, 1854. (*A Treatise on the Diseases of the Breast and of the Mammary Region.* By A. VELPEAU, Surgeon of the Hospital of La Charité, &c., &c. Paris, 1854. pp. 727. With Plates.)

The Diseases of the Breast, and their Treatment. By JOHN BIRKETT, Fellow of the Royal College of Surgeons of England, Fellow of the Linnæan Society, and Assistant Surgeon to Guy's Hospital. (*The Dissertation to which the Jacksonian Prize for* 1848 *was awarded by the Council of the Royal College of Surgeons of England.*) London, 1850. pp. 264. With Plates.

THE volumes before us are the productions of two surgeons of widely different reputations on this side of the Atlantic. One is from the pen of the world-renowned Surgeon of La Charité, and contains the results of his extensive experience for more than thirty years; the other comes to us with the seal of approbation of the Royal College of Surgeons of England, having obtained the Jacksonian Prize for 1848. For some years past Mr. Birkett has been one of the contributors to Guy's Hospital Reports, but as its circulation is limited in this country, as a necessary consequence, his name is far less familiar here than that of M. Velpeau. However, the position to which he has recently been promoted, as the successor of the late lamented Bransby Cooper, Lecturer on Surgery at Guy's Hospital, will doubtless add to his celebrity. In his preface he states that, through the kindness of many friends, and his connection with Guy's Hospital, which is one of the largest and most richly endowed in Europe, opportunities on a large scale have occurred to him to examine,

as minutely as possible, those morbid growths to which the mammary-gland is liable. His avowed object is the instruction of his junior brethren; and if he has been rather prolix in the description of their minute anatomy, he trusts that "the fault may be forgiven, and that the reader will attribute this, I hope, pardonable occupation of his time to a desire to render the explanation clear, and the identification of similar structures of easy attainment." One of the most important practical points connected with the study of the diseases of the breast is, certainly, the identification of their benign or malignant character; and notwithstanding the microscopical researches of Müller, Gluge, MM. Robin, Lebert, Bennett, and others, if the opinions of M. Velpeau be true, we must surrender our faith in the power of this instrument to establish absolutely the differential diagnosis of the genuine and the pseudo-cancerous tumor. In his preface he boldly asserts that, since 1830, he has lost no opportunity of subjecting mammary tumors to examination with the microscope, and he candidly admits that, as yet, he is not in the possession of a sufficient number of unequivocal facts to serve as a basis of an unobjectionable classification of these tumors. Moreover, he believes that he has incontrovertibly proved: 1, that the so-called cancer-cell is not the specific element of cancer; 2, that genuine cancerous tumors may exist without this cell; 3, that this cell has been found in non-cancerous growths. In arriving at these conclusions, he availed himself of the same means employed by M. Lebert himself; for the last-named author based many of the observations contained in his *Physiologie Pathologique*, and his *Traité du Cancer*, on the analysis of a large number of tumors removed by the surgeon of *La Charité*. Consequently both observed the same facts, but in their interpretations of these facts they differ. Had M. Lebert confined himself to the simple announcement of the existence of certain forms of globules in these tumors,—in a word, if he had kept within the bounds of pathological anatomy,—M. Velpeau would have been under no necessity of rejecting his conclusions, theoretical or practical, on the subject of the cancer-cell. He comments, at considerable length, on the course pursued by MM. Lebert and Robin, though he would by no means wish it to be supposed that he considers the microscope of no value in assisting our diagnosis. He admits that this instrument has been the means of bringing to light important facts, but it is the interpretation or application only of these facts which he is disposed to call in question. He is willing even to acknowledge that a notable difference exists between the so-called cancer-cell and that which is found in tumors of a non-

malignant character. But this cancer-cell is not the *sine qua non*, the initial element of cancer.

Other points are noticed by our author in his somewhat lengthy preface, but these will be referred to in another place.

The work of M. Velpeau is divided as follows: in the first place, we have the diseases of the female breast, the non-malignant affections, including the inflammatory and the non-inflammatory; and, secondly, the malignant diseases of the female breast. Then follow the non-malignant and the malignant affections of the male breast; and the work is concluded with some remarks on the diseases of the breast in infants and children.

The following is Mr. Birkett's arrangement:

1. The diseases *before* puberty. 2. The diseases *during* the establishment of puberty. 3. The diseases *after* the establishment of puberty, including those which occur during pregnancy, the puerperal period, and lactation, or at any period or age after puberty.

In our analysis of these volumes, we shall follow the order of arrangement adopted by the French surgeon.

By the term, benign affections of the breast, M. Velpeau would designate those which, if left to themselves, would not destroy the patient, or which have a natural tendency to a spontaneous cure. Of these he would make two groups: one embracing the different inflammatory affections; the other, those which are originally, or in their progress, unaccompanied by inflammation.

Nearly all of the inflammatory affections of the nipple are confined to the puerperal state. There are some, however, which occur independent of these conditions, such as eczema, excoriations, fissures, &c. Several interesting cases are related, but we shall refer to only one, in which the eczematous affection seemed to be developed under the influence of constitutional syphilis. This patient was twenty years of age; the nipple and areola presented a well-marked coppery red tint. The surface was moist, and there was a constant exudation of a reddish humor, which speedily dried into sallow-colored crusts. This affection was of some six or eight months' standing, and had not changed its aspect from the commencement. Five months before, she had been treated at the *Hôpital du Midi* for well-marked syphilis. The eczema resisted all topical applications, but yielded, in the course of two months, to pills of the proto-iodide of mercury.

Some few years since, we treated a case of this kind, which had been pronounced by a physician to be carcinoma!

Among the topical applications recommended by our author, in cases unconnected with a syphilitic taint, are the following:

Axung. washed in rose-water, ...	℥ iii.
Sod. Bi-Carb. or Calc. Sulph., . . .	grs. viii ℞.
Or, Cerate Simpl., ...	℥ iii.
Calomel, ...	ʒ i.
Camph., ...	grs. iiiß ℞.

The crusts having been detached by the application of fresh butter, or a linseed poultice, the red surface is to be carefully covered with one of the above ointments, or, what is preferable, an ointment composed of fresh butter and powdered sulphur. Should these means fail, the whole of the affected part may be touched with the nitrate of silver three or four times in the course of the day. With the topical applications, general baths, mucilagenous, sulphurous, or alkaline, should be employed. Internal treatment should not be neglected.

In the treatment of fissures of the nipple, he denounces the lotions of bi-chloride of mercury used by some surgeons, as the child may suffer seriously if but the smallest particle of this substance remain on the surface or in the fissure. The tincture of catechu he has not found of great service, but slight cauterizations with the nitrate of silver have proved quite efficacious. Should the disease affect a large extent of surface, a solution of this substance may be employed. Mr. Birkett also considers the nitrate, when endurable, a valuable remedy, but he remarks that its use is attended with great pain, although, after a second and third time, it is not so severe as on the first trial. Collodion is regarded by both our authors as an useful application; the kind of artificial epidermis which it forms affording protection to the skin, and permitting the fissures to heal undisturbed by the sucking of the child. As a general rule, M. Velpeau thinks it is better for the mother to continue suckling her child, as the engorgement of the breast, consequent on the discontinuance of this act, is calculated to exasperate the disease. Even when one breast only is affected, lactation in this should not be suppressed. But if the woman suffer too severely, and the child become emaciated, another nurse must be procured.

Deep-seated Mammary Abscess.—He refers to the anatomical arrangement of the parts, by which a kind of synovial cavity is formed between the mammary gland and the pectoralis major, and other coverings of the chest. This sac was first noticed by M. Nelaton, and is found principally in women whose breasts are voluminous, movable, and heavy, who have nursed many children, and may become the seat of various kinds of effusion and phlegmonous affections. In

consequence of their remote situation from the skin, local applications in the shape of ointments, cataplasms, &c., are of but little avail; general treatment is therefore required, and he has seen the happiest effects from the use of calomel, and tartar emetic in large doses. Purgatives also are indicated. Should the inflammation not yield to the above measures and to blood-letting in the course of four or five days, suppuration is sure to occur, and exit must be given to the matter by free incisions. Mr. Birkett directs that pressure should not be used upon the part to expedite the flow of pus, but the opening ought to be sufficiently extensive to admit the ready efflux of the fluid, and perhaps somewhat solid contents. Lint, moistened with warm water, may be applied, and upon the second or third day, the breast must be strapped up with plaster, and well bandaged. Should the patient become debilitated by the long-continued discharge, of course a generous diet must be prescribed.

M. Nelaton has published some interesting observations in the *Rév. Med. Chir.*, No. xiii., 1853, on the etiology of mammary abscesses, and he remarks, in relation to the diagnosis, that it may be laid down as an absolute rule, that whenever a puncture, after having at first furnished pure healthy pus, yields a sanguineolent pus on compression two days afterwards, the fluid taking on a bloody appearance without obvious cause, a second abscess has become developed in the vicinity of the first. By a little attention, this second tumor may be detected. The wall interposed between the two collections becomes the seat of great turgescence, and of a considerable efflux of blood, and a sanguineous transudation takes place into the first cavity. (*Ranking's Abstract*, No. xviii., p. 190).

Nearly 200 pages are devoted by M. Velpeau to the subject of the various phlegmonous affections of the breast, and the chapter is concluded by a statistical *résumé* of some 200 cases treated under his supervision since 1834. Of these 3 died; 139 were cured; 28 imperfectly cured; 5 left the hospital uncured; 21 were complicated with erysipelas, axillary abscess, abscesses in the neck and on the back; variola, pleurisy, phthisis, eczema, erythema, and gastric irritation. The right breast was the seat of the disease in 75 cases; the left, 75; both, 23 cases. Between 15 and 20 years of age, there were 20; between 20 and 30, 116 cases; 30 and 40, 23 cases; 40 and 50, 5 cases; 50 and 60, 3 cases.

Thirty-seven were subcutaneous abscesses; deep-seated, 38; parenchymatous, 95; not specified, 6. Of the causes, 20, from contusion;

3, eczema; 7, pregnancy; 110, puerperal state; 2, chaps or fissures; 1, needle; 6, cold.

The very small number produced by chaps or fissures would seem to disprove the opinion of M. Nelaton, as expressed in the paper to which we have already referred. He believes that mammary abscesses are very often due to the existence of chaps or sores on the nipple, the irritation being propagated along the lymphatics of the organ, just as a wound of the foot or hand will give rise to an inflammation in the vicinity in the glands of the groin or axilla. Once excited in the breast, the inflammation may become speedily propagated to the deeper parts of the organ. He refers to M. Sappey's preparations of the lymphatics, which exhibit the great abundance of these vessels, nearly all of which take their origin at the nipple or areola, and ramify from this common centre in all directions along the fibrous partitions of the gland. He also asserts that when the chap is situated at the upper part of the nipple, the inflammation will usually be found at the upper part of the breast, &c., &c.

But we must pass to Chapter II., which treats of affections of a benign or indolent nature. The following is M. Velpeau's classification:

1. Hypertrophy . . . . { *a.* of the gland, *b.* of the cellular tissue, *c.* of the adipose tissue.
2. Engorgements . . . { *a.* of the cellular tissue, *b.* of the glandular tissue.
3. Cysts . . . . . { *a.* sebaceous, *b.* gelatinous, *c.* sanguineous, *d.* milky.
4. Tumors . . . . . { *a.* lipomatous, *b.* fibrinous, *c.* butyreous, *d.* tuberculous, *e.* osseous, *f.* granular or nodular, *g.* adenoid, or the so-called partial hypertrophy.
5. Imaginary tumors.

Of these various affections, we can notice but the cystic tumors, or the hydatid tumors of Sir Astley Cooper and Dr. John C. Warren, the carcinoma mammæ hydatides of Sir Charles Bell, the sero-cystic of Sir Benjamin Brodie, and the unilocular or multilocular cysts of French writers. Mr. Birkett has devoted particular attention to this subject, and, previous to the appearance of his present volume, had published some interesting observations in *Guy's Hospital Reports*, October, 1849. The conclusions to which he has arrived are directly

at variance with those entertained by Sir Benjamin Brodie. The following are his views, based upon a careful examination of these growths:

1. "That the lactiferous ducts are liable to dilatations resembling cysts; that this morbid condition stimulates more important diseases; hence, this suspicion being excited, the excision of the tumor has been resorted to.

2. "There is no evidence to prove, from minute examination, that the growth within the ducts enjoys any characters in common with either the cysto-sarcomatous or carcinomatous new formations; and,

3. "That this morbid condition belongs to the class of the non-contaminating diseases."

The morbid action which produces these tissues, he believes to be as follows: "In the first place, an excess of secretion takes place in the duct, which, from some cause or other—malformation of the nipple, or obstruction of the duct by pressure—does not flow away spontaneously, although it may perhaps be made to ooze out. The fluid becoming absorbed, the more solid material, the epithelium, remains behind, leaving a coherent mass of more or less solidity. This body may cause irritation, an excited action is induced, blastema is effused, and nucleated cells, which attain a degree of fibrillation, are formed; hence the appearance of organized growths found in the ducts."

A section of the distended ducts, he states, presented the appearance of a section of congeries of varicose veins with their smaller branches, and contained coagula. Indeed, it is a kind of varicose condition of the ducts, with partially organized contents, and the remains of that secretion which they are intended to convey. Mr. Birkett's remarks are illustrated by diagrams, which greatly facilitate the comprehension of his views.

M. Velpeau asserts that, although Sir Astley Cooper and Dr. Warren may really have seen hydatid tumors of the breast, it is probable that more than once they have confounded the simple serous cyst with this disease. He then asks, How is it that two surgeons of so extensive a practice, and such a long experience, have not met the proper cystic tumors of the breast, when they have met with the hydatid disease so frequently, whilst he himself has never observed the genuine hydatid affection, but a large number of different kinds of cysts? He would not deny the existence of the hydatid disease, but would simply maintain that it is less frequent than one would suppose from the writings of Sir Astley Cooper and others.

Sometimes these cysts contain new growths, in which both a fluid

effusion and a solid formation simultaneously exist, constituting what is known by the name of sero-cystic sarcoma; and not unfrequently this kind of growth is supplied by a large vessel, or even two or three large arteries, which may bleed very freely during their extirpation with the knife. An incision followed by pressure may occasionally prove of service, but both of our authors agree that amputation of the breast, or of the morbid growth alone, is the only means by which the patient can be relieved from the fears excited by the existence of the tumor, although the constitution is never contaminated by these growths.

Some twelve years since, we saw, at the Clinique of the College of Physicians and Surgeons of this city, a case of galactocele of enormous size. Prof. Parker punctured it with a trocar, and drew off three quarts of milk. It was punctured twice afterwards. This case is reported in the *New-York Medical Gazette*, January, 1842. Scarpa, in a similar case, drew off five quarts of pure milk! The report of it is copied by Mr. Birkett from the *Opusculi di Chirurg.*, t. ii., of the distinguished surgeon of Pavia.

We come next to the second part of M. Velpeau's volume, which treats of the malignant or cancerous affections of the breast. Cancer of the breast being the most common of all the forms of carcinoma, gives to this part of the subject an unusual degree of interest. We have here three principal forms of cancer: the scirrhous, encephaloid, and the fibro-plastic; melanosis, keloides, and the epithelial form, are very rare.

Scirrhus presents itself under different aspects, such as the ligneous, lardaceous, infiltrated, &c., all of which may be united in the same breast, or be encountered separately. Under the term ligneous cancer he would designate that kind of tumor in which the predominant characters are density, the firmness of wood, without fixed limits, and diffused in the surrounding tissues. But our space is too limited to follow our author through all his observations upon the different forms presented by this disease, and we must confine our attention to his remarks under the heads of diagnosis and treatment. For more than thirty years, he has labored to add to our means of diagnosis; chemical analysis has proved of no avail; the microscope and clinical observation, however, have not been quite so barren in their results. In the commencement of our analysis of these works, we alluded to the conflicting opinions entertained by M. Velpeau and M. Lebert, in relation to the *cancer-cell*, and we here find him devoting some 23 pages to the microscopical anatomy of cancer. He quotes from Vogel the following remarks, to

show the present state of the question, according to the admissions of the micrographers themselves:

"The histological characters of cancerous tumors vary considerably, and not unfrequently they differ in various portions of the cancer." (Vogel, p. 266.) He then asks, Do cancer-cells contain elements distinct from those which exist in the organism in its healthy state? This the German histologists, Müller, Vogel, and Virchow would seem to deny. Dr. Bennett, of Edinburgh, admits an analogy between the normal cells of the liver and the microscopical elements of cancer of this organ. After noticing the conflicting statements of different micrographers, he observes that he has seen the so-called *cancer-cell* in tumors of the non-malignant character, of which there could be no doubt. In 1851, he removed a portion of the os calcis and of the heel, which for a long time had been affected with caries and a fungous degeneration of the tissues. Mr. Broca, who examined these fungous growths with the microscope, found them filled with the cancer-cells. The wound healed; the health of the patient became perfectly reëstablished, and M. Velpeau has no doubt of the innocent nature of the disease. He gives also in detail the particulars of a case in which he removed an adenoid tumor from the breast, in which MM. Follin and Lebert detected a certain number of cancerous or encephaloid cells, and yet this was a benign affection.

The following are M. Velpeau's conclusions upon this subject: Every form of cancer of the breast may be included under the terms encephaloid, scirrhous, chondroid, melanotic, and epithelial cancer. He is unwilling to admit that a homologous cell—the epithelial cell which enters into the composition of the normal tissues, which forms the epidermis, warts, corns on the feet—is the fundamental, the specific element of growths so incontestably malignant as are the cancerous tumors.

Mr. Birkett, on the other hand, boldly asserts that "the minute anatomy of carcinoma is so distinct and peculiar, so totally different in almost every respect, from that of any other tissue of the body, and the elements of which this tissue is composed are so characteristic, that the identification of a growth of this nature no longer remains a matter of uncertainty or doubt," p. 212. At page 242, he observes: "But since I have so positively asserted the specific character of carcinoma, as well as the possibility of its identification, it becomes necessary, in justification of this position, to add what I have myself observed." These appearances, he admits, are so variable, depending upon so many accidental circumstances, that we rarely meet with two pre-

cisely alike. The essential elements, however, of carcinoma, are nucleated globules and a fibre. After perusing the thorough analysis of this subject by M. Velpeau, we must confess, that, henceforth, we must attach less value to these "nucleated globules and a fibre," than does Mr. Birkett. M. Gerdy, in his *Chirurgie Pratique*, tom. ii., 2d part, p. 405, after describing the various appearances presented by the microscope, thus remarks: "Tant de variétés ne donnent guère de *l'unité*, à mon sens, à l'élément special du cancer, et ses analogies avec le globule fibro-plastique l'en distingue souvent assez mal."

In the treatment of cancerous tumors of the breast, we find the following plan laid down by our author, as that in which he has most confidence. From 6 to 12 leeches are applied, not to the breast, but towards the axilla, once in 15, 20, or 30 days. The soap plaster, cicuta plaster, or emplastrum de vigo, is applied so as to cover the affected part, the former being changed twice a week, the latter only every eight days. Instead of these plasters, he frequently prescribes free inunctions with an ointment of the iodide of lead, or with the mercurial ointment, or an ointment of the iodide of potassium, the quantity of the iodide being small. Mucilaginous baths, rendered alkaline by the addition of the salts of potash or soda, or even a certain quantity of soap, are useful adjuncts.

Internally, he prefers the iodide of potassium, or the cod-liver oil, to the preparations of cicuta. All saline, spicy, or acid substances are to be avoided, in the way of food. A purgative to be administered every eight or fifteen days. Compression, though useful in benign tumors, he thinks, may prove injurious in those of a cancerous nature. Mr. Birkett disposes of the medical treatment in a very few words: "So far as the administration of drugs is advantageous in the restoration of the general health, there can be no doubt of their utility; but it must be confessed, that at present, no method is known by which the disease can be eradicated, if there be evidence of the constitution having become affected."

The question of *surgical* interference of late years has been much discussed, and it is still agitating the minds of the profession. According to some, an operation but accelerates the fatal termination. Others boast of a success truly astonishing. The American Medical Association, at one of their late meetings, appointed a committee to report on the results of surgical operations in malignant diseases. A most admirable selection of chairman of this committee was made, viz., Prof. Gross; and in his most able report, he has thoroughly examined the facts which bear on either side of this question. (*Transactions of*

the American Medical Association, vol. vi., 1853.) After passing in review the opinions of many of the most eminent of European and American surgeons, he comes to the general conclusion, that excision, however early and thoroughly executed, is nearly always, in genuine cancer, followed by a relapse at a period varying from a few weeks to a few months after the operation. Those desirous of becoming fully acquainted with the present state of our knowledge on this subject, cannot do better than to study the above report, by the distinguished surgeon of Louisville.

M. Velpeau asserts that both observation and statistics, prove that the extirpation of tumors of the breast is not always followed by a relapse, and is not always useless or injurious. Again, a large number of facts in his own experience incontestably demonstrate the possibility of a radical cure following the operation in cases "les mieux conditionnés."

Mr. Birkett remarks that we must be guided by the stage of development, as well as the constitutional condition of the patient, and by the period of time the growth has been forming. If cases of acute carcinoma are meddled with, they are sure to be followed by a relapse; if those of a chronic character, the patient may enjoy almost certain freedom from the disease for some years.

As to the propriety of repeating the operation in cases of a return of the disease, M. Velpeau refers to a most remarkable example, in which M. Roux is said to have succeeded in effecting a cure even when the tumor had re-appeared for the sixth time. This case is reported in the *Bulletin de l'Académie de Médecine*, t. ix., p. 595. The first operation was performed in 1842, the last in 1852. He thinks there can be no question that in this instance life was prolonged by the successive operations which were performed. Mr. Birkett, on the other hand, believes that little hope remains of the prolongation of the patient's life by a second operation, but the perusal of other cases detailed by M. Velpeau is calculated to produce a very different impression.

The case of M. Roux, above referred to, is with the exception of the seat of the disease, analogous to one related by Prof. Gross in his report, in which the writer with other surgeons, prolonged a man's life by repeating the operations for the excision of the lip and lower jaw, involved in carcinoma. Life in this case was prolonged from 1844 to 1851, and in the opinion of Prof. Gross, it is one of the most remarkable on record.

Mr. Birkett has seen but few cases of cancer of the breast in the

male; indeed, he mentions but one, which was removed by Mr. Callaway. M. Velpeau has seen nine or ten cases; others have been reported by MM. Sedillot, Petrequin, Dr. Walshe, and Dr. Warren. The writer has seen two intances of the kind, one at the Pennsylvania Hospital, the other at St. Bartholomew's, London. In 1853, we assisted Dr. Van Ingen, of Schenectady, in the removal of a fibro-plastic tumor in the mammary gland of the male.

We have already extended our analysis of these works to such a length, that we must now bring our remarks to a close. The reader can form but a very imperfect idea of their merits from our selections from their pages. Either volume is far more complete than the celebrated work of Sir Astley Cooper, which, as is well known, did not embrace the subject of the malignant affections of the breast, nor could it have furnished us with the light so recently shed by the microscope on the minute anatomy of mammary tumors. In those now under consideration, the student and the practitioner may find all of importance which the present state of our science can boast. The volume of Mr. Birkett needs not our humble commendation, after having received that of the Council of the Royal College of Surgeons of England, whilst that of the celebrated surgeon of La Charité requires but to be read to be justly appreciated. Its appearance in an English dress could not fail to be most cordially welcomed by those unable to read it in its native language.

G. C. B.

ART. XII.—*A Treatise on Acute and Chronic Diseases of the Neck of the Uterus.* Illustrated with numerous Plates, colored and plain. By CHARLES D. MEIGS, M.D., Professor of Midwifery and the Diseases of Women and Children in Jefferson Medical College, &c., &c. Philadelphia: Blanchard & Lea, 1854. 8vo. pp. 116, plates 22.

A Practical Treatise on Inflammation of the Uterus, its Cervix and Appendages, and on its Connection with Uterine Disease. By JAMES HENRY BENNET, M.D., Member of the Royal College of Physicians; late Physician-Accoucheur to the Western General Dispensary, &c., &c. Fourth American, from the Third and Revised London Edition. Philadelphia: Blanchard & Lea, 1854. pp. 430.

THE diseases peculiar to females will ever merit and receive a large share of attention from the general practitioner of the healing art; but, were not the pathology of these Protean maladies more enlight-

ened and progressive than it was previously to the investigations and writings of Sir Charles Mansfield Clark, M. Récamier, and Mme. Boivin, charlatans and nurses might still have continued in full control of this their favorite and most lucrative department of *practice*, to the discredit of science, and the injury of the fairest and better portion of humanity. But thanks to the labors of such men as Récamier, Gibert, Kennedy, Montgomery, and Bennet, our knowledge of uterine pathology has received the form and certainty of a true science; the history and symptoms of the diseases peculiar to females may now be understood and properly analyzed, and appropriate remedial agencies applied. The pallor and debility of despairing female invalids may now be exchanged for health and vigor; vexatious and distressing bodily and mental suffering, and premature decline, are by the scientific physician readily arrested, and the natural tone and vivacity of health restored.

As the respected authors, whose names stand at the head of this article, lay claim to the honor of being foremost among uterine pathologists, in their respective countries, we are happy to see new editions of their labors laid before the profession at the same time.

The treatise by Dr. Meigs is presented to the profession as the result of that popular professor's extensive clinical observation and experience in the treatment of maladies affecting the cervix uteri. Prepared, as it was, as an erudite report to our great National Association, by special appointment, the profession had a right to expect an elaborate and complete *resumé* upon the subject. And these anticipations were greatly augmented when the worthy Treasurer of the Association, at its last meeting, based his successful appeal for largely increased means, for the publication of the Transactions, upon the great extent and excellence of his learned *confrère's* forthcoming report, the materials for which, as he stated, had been accumulating for many years, and the illustrations for which would be new and immensely important, as well as expensive.

Of the manner in which these high anticipations have been met, and of the actual merits of the work, every intelligent physician will be apt to judge quite as correctly as the gentlemen who labored to give special prominence to the report of the committee, represented by the amiable teacher of obstetrics in the Jefferson Medical College. But we do not propose to discuss any questions which may possibly stand connected with the historical origin of the enterprise of bringing before the world the immense treasures of clinical experience and profound erudition, which appear in this report; for upon this subject

we "know nothing." Dr. Meigs has executed his work in "character," indulging in his peculiar desultory style of writing and of reasoning, and adducing new and striking illustrations of the fertility of his own genius and his peculiar dialect of our mother-tongue.

Dr. Meigs commences his report by stating the necessity which exists for the publication of such a treatise as that which he has written, modestly asserting that "it was to be expected that the labors of ingenious men, devoted to this species of research, should, by this time, have placed all questions in this kind of practice so fairly before us, and with solutions of the various problems so clearly exposed, that there could be no farther real necessity for making public one's, "observations or reflections."

He then proceeds to discuss *in extenso* the questions of propriety and morality which have been raised by the fastidious concerning the employment of the *speculum* and *toucher*, and he concludes that "we do not find ourselves called upon to discountenance and reprobate the prudent and necessary employment of modern methods and instruments invented to improve the means both of diagnosis and surgical treatment of diseases of the cervix uteri; conceiving that this is a matter to be left to the conscience and judgment of our brethren whenever the occasion may arise."

Our author opens his remarks on uterine pathology in the following language:

The reactions of the reproductive organs upon other members of the animal economy are known to be both diverse and comprehensive; nor is it difficult to perceive that this should be the case, seeing the great importance of their functions. One could hardly suppose, indeed, that a system of anatomical tissues, representing the complement of the vital powers, could be an *indifferent* in their constitutional reaction. The powerful sway they exert upon not only the physical, but the psychical condition and nature of the woman, might well persuade us that changes in their vital *status*, even such as are inappreciable, except by the reason, should greatly affect both the body and mind of the woman. * * * * A dark and mysterious veil hides from us many of the laws that grow out of the intimate relations and mutual dependency existing between the conservative or generic forces of animals, and their reproductive or genetic powers. Many stumbling-blocks in the path of the practitioner would be taken away, if these laws and relations could be fully understood, and we should then be able to take more precise indications, and adopt more positive methods of treatment.

Concerning the nature and origin of malignant diseases of the uterus, our author propounds the following statements, which, if strictly true, would certainly simplify our views of the histology of such affections:

Unequable development of the several elements converts the womb into a tumor, degenerates it, and renders it incurable by medicines; whereas, the state of pathological hypertrophy is one to be recovered from upon removal of the cause.

If in the womb, the areolar, or the vascular, or the nervous element should be augmented several hundred per cent. beyond its normal ratio, the rest of the tissues preserving their quantitative relations to each other, the viscus would be changed into a hæmatoma, a cephaloma, &c., &c., according to the nature of the case or chief constituent element of such tumor.

Unhappily the womb is, by nature, peculiarly subject to such changes.

Concerning the nature and the relations of leucorrhœal discharges, Dr. Meigs justly remarks, that "the most mischievous of leucorrhœal secretions is that which comes from the canal of the cervix of the womb." But we think that the following statements, concerning the pathological relations and indications of the different varieties of these discharges, though strictly correct so far as relates to the secretion when *fresh* and *in situ*, are calculated to mislead the physician who would base a diagnosis upon the definitions given by our author. He remarks, that "the muciparous glands of the vagina furnish either a thin watery mucus, or else one of a creamy consistence, which, in other instances, appears to be butyraceous, or concrete. The excretion from the glands of the canal of the neck, however, is always gluey or albuminous, and resembles fresh white of eggs."

Now, it so happens, that in a majority of the cases of inflammatory affections of the cervix uteri accompanied by leucorrhœa, the patient seldom, if ever, notices any other than the opaque, creamy, or concrete variety of discharge. So true is this, that Sir Charles Mansfield Clark, one of the most careful observers who has ever written upon uterine pathology, considered the white, opaque, and amyloid mucous discharge a very important and characteristic indication of inflammatory disease of the cervix, believing that this kind of discharge originated in the glands of that organ. He states that this opaque amyloid discharge "belongs to one condition of the uterus only, and that it characterizes that condition with marked constancy." From very extensive observations, we are satisfied that Mr. Clark's observations on this subject are mainly correct so far as the pathological relations of the discharge are concerned, notwithstanding some obvious errors. The experiments of M. Donné, Mr. Whitehead, and Dr. Tyler Smith have demonstrated the fact that the ropy and transparent mucus which is the characteristic secretion of the glands of the canal of the cervix, is readily and quite certainly transformed into the opaque,

creamy, or curdy discharge, which is the most frequent form of leucorrhœa, and which Dr. Clark has asserted to be characteristic of inflammation of the neck of the uterus.

The practical importance of these facts, in the matter of diagnosis, &c., leads us to refer to them in this connection.

Dr. Meigs justly observes, that "the most essential element of a successful practice exists in a positive diagnosis. It will not do for us to believe this or that—we must guard the interests of the patient by knowing it is this, or that, or the other form and stage of a disease." But we conceive that the following comment upon the difficulties which lie in the way of attaining such precision in diagnosis savor of a prudish sentimentality, rather than of a scientific and conscientious devotion to the physician's highest duty:

> It must be a very trying occasion, that of a sensitive and delicate woman, who is brought into such a strait as to require a physical examination of those parts which naturally shun exposure. The medical man who has even a common share of sensibility will always, therefore, defer this last resort as long as possible, while he makes use of empirical treatment; if haply he might thus be enabled to effect a cure without the waiver, on her part, of those honorable scruples which deserve from him the most perfect respect.

While we would forbid any indiscriminate resort to physical examinations of the uterine organs, and would frown upon any indelicacy, we would not consent to practice this department of the healing art in conformity to the spirit of these suggestions of our worthy author. But our observations have convinced us that the objections and difficulties, here referred to, are mainly imaginary rather than real; indeed, we are persuaded that the physician who is professionally and morally qualified for such duties will seldom meet with much embarrassment, so far as concerns the proper employment of the speculum among intelligent and virtuous females. An intelligent physician will seldom resort to such modes of investigation except in a case of necessity; and the fact that such necessity exists is sufficient apology for the means resorted to.

Dr. Meigs considers that the most reliable form of speculum "is a slightly conical tube of silver, six inches and a half in length. The uterine extremity should be one inch in diameter; * * the outer, or larger extremity, should be one inch and a half in diameter."

Our author's description of the appearance and condition of the inflamed and diseased cervix uteri, though very brief, is quite unique: "One or both of the lips of the womb may be found tumid, softened, granulated, or *botryoidal* in appearance, and of a uniform red; or else

drusy as to the surface, and presenting some resemblance to the surface and color of a ripe raspberry." A very singular appearance, certainly, is that of an inflamed cervix uteri, which could be termed *botryoidal*, or *drusy*. We cannot imagine a condition of that organ, which, even by a forced analogy, could be said to resemble a bunch of grapes, or the coruscations of crystals.

Young physicians must have better descriptions of the morbid appearances and conditions of the cervix uteri, before they will rise above the necessity of sending off their unfortunate lady patients to Philadelphia for counsel and treatment.

The *illustrations* which Dr. Meigs has given of diseased conditions of the cervix uteri are over-colored, and fail to convey a correct impression of the actual characteristics of the various forms and stages which they are intended to represent. This failure of the plates, however, is not so much the fault of the author, as the mode which was selected for their execution; and printing in colors signally fails, in point of effect, in delineating living morbid structures, for, to use the terms of artists, warmth and softness cannot be produced by the process in sufficient amount to answer the purpose. However, the plates which Dr. Meigs has furnished us are not utterly worthless as they will serve to call the attention of physicians to the obvious importance of surgical treatment, for the relief of the morbid conditions which they very fairly represent.

The tedious detail cases with which we are favored in this report might provoke some impertinent questions, but we are bound to infer that they are all intended as important to the *design* of the report and the treatise; but the terms and the statements, by which these cases are described, will fail to satisfy a scientific uterine pathologist.

So far as topical medication is concerned, our author relies mainly upon the application of the nitrate of silver; but this is by what he learnedly denominates "*antiphlogistic contacts.*" As he accomplishes this by the application of the solid caustic stick, there can be no doubt of the *effects* which are intended and produced. The suggestions which he makes, concerning the rules to be observed in making these applications, are important, though singularly stated.

Concerning retroversion of the uterus, our author makes the following remarkable statement:

> Among these cases of womb complaints, probably none are so common as those which depend upon retroversion of the womb. So frequently does this affection occur in the course of one's medical practice, that one almost acquires a disposition, in every case, before examination, to suspect it has some dependency upon *retroversion uteri.*

The author has long been fully convinced that *retroversion of the womb constitutes seventy-five per cent. of all cases of sexual disorders, that are of a gravity sufficient to require appeal to medical advice.*

Though our author thus broadly declares that retroversion *constitutes* seventy-five per cent. of all cases of uterine disorders, this statement, when justly interpreted, means that, in this large percentage of diseases of the uterus, there is observed to exist a certain amount of displacement of the fundus of the organ backwards. But, when Dr. Meigs comes to teach that the cause of such displacement is to be found mainly in the bad habit to which females are prone, of allowing the blader to become over-distended, and that the engorgement, hypertrophy, and inflammation, accompanying this malposition, are consequent thereupon, we can but believe that he is in error. But, in New-York, we do not find that retroversion exists in seventy-five per cent., nor indeed in one half that proportion of uterine diseases; and, in all ordinary cases of malposition, the mechanical abnormity is satisfactorily relieved so soon as the uterine engorgement and inflammation are cured, and the patient's vigor restored. Of course we do not resort to the employment of the pessaries and uterine supporters which Dr. Meigs and his mechanical brethren have very ingeniously devised; and we have yet to learn that such contrivances are of any avail in the cure of uterine diseases. But it is not strange that Dr. Meigs resorts to pessaries, &c., for he asserts that "prolapsus uteri is a disorder or weakness of the vagina and its ligaments."

Concerning ulceration of the cervix uteri, Dr. Meigs offers the following remark: "An immense experience in a populous metropolis —an experience greatly increased by the resort of numerous invalids from the country, and from the different United States—enables me with confidence to declare, that an ulceration of the womb is among the rarest of disorders."

Of the diseased conditions of the canal of the cervix uteri our author says but little; and of the elemental and most important facts in the pathological history of any of the diseases of the cervix upon which he reports, he fails to give us any rational or important information. Indeed, the treatise, as a whole, is not only exceedingly meagre and unsatisfactory, but we feel that it does great injustice to its distinguished author, who has earned a reputation worthy of a far better production than this.

Dr. Bennet's treatise is widely different from that of Prof. Meigs, both in its design and execution. He has attempted to present a

rational and strictly scientific pathological history of the inflammatory diseases of the uterus, and in doing this he has not allowed ambiguous terms or equivocal statements to obscure the truth. Ever since the publication of the first edition of Dr. Bennet's treatise, in 1845, it has been the subject of the most searching criticism, while it has instigated the most careful and extensive pathological investigations of uterine diseases. The present revised and enlarged edition must be acknowledged the best treatise of the kind in the English language, and we know of none in the French or the German that are equally valuable. It certainly is no small compliment to Dr. Bennet, that his treatise is published in the latter countries, and that a fourth edition has been called for and issued in our own country.

It must be admitted that Dr. Bennet's writings have served to mark a new era in the literature, if not in the pathological doctrines, of this department of medicine. The earnest and even angry opposition, by which the early editions of his treatise were assailed, indicates the important and wide difference of opinion and practice existing between Dr. Bennet and his worthy seniors; while the readiness and the remarkable uniformity with which our author's views are adopted or accepted by nearly all those physicians who were most familiar with uterine pathology and the diseases of females, demonstrate, no less certainly, the conformity of Dr. Bennet's teachings to the facts everywhere observed in practice.

We conceive that his work contains some statements and suggestions which will eventually be modified, and that it inculcates some erroneous, or at least too exclusive, pathological doctrines, against which those not already familiar with uterine disorders may need to be guarded; yet, in point of general accuracy and practical value, there certainly is no other treatise that equals this. No physician's library can be complete without it.

The very full analysis of the former edition of the work, given in this Journal, N. S., vol. v., precludes the necessity of an extended or critical notice of the present edition; we will, therefore, only refer to a few of the more important points which are newly stated or prominently re-affirmed in this edition.

In reference to the whole subject of inflammation and ulceration of the neck of the uterus, the opinions and doctrines put forth by Dr. Bennet, in the former editions of his work, are fully re-affirmed in this, and he re-states his definitions and views of what he terms ulceration of the cervix, in such language that no one need doubt his meaning, or cavil at his use of the term. He considers that any degree of solu-

tion of continuity occurring in the epithelial structure, or in any superficial tissue, occurring in connection with, or as the result of, an inflammatory process, constitutes an ulcer. That a solution of continuity in at least the epithelial structure is a very frequent, and, indeed, an almost necessary result of continued inflammatory action, does not admit of dispute. This being the common event in inflammation of the cervix, then, Dr. Bennet and all who admit the correctness of his definitions necessarily find ulcerations in the great majority of cases of inflammation of the cervix uteri. Again, Dr. Bennet and others consider that the presence or production of pus is an absolute proof of the existence of ulceration in the mucous, no less than in any other tissue. And further, he conceives that the opaque film that is formed by the contact of nitrate of silver to the diseased cervix accurately marks the extent as well as the existence of the ulceration.

Now if any one is disposed to call in question the correctness of Dr. Bennet's teachings on this subject, he would do well to consider that *the* pathological events upon which these questions depend are not yet satisfactorily settled, at least so far as the phraseology by which they are expressed is concerned. It is well known that in inflammation of a mucous membrane, there often occurs a mixture of imperfectly elaborated fibrine with the mucus, which degenerates rapidly into pus corpuscles, and Mr. Paget asserts that, in the more acute inflammations, the characters of the pus-cells seem to be acquired in the very beginning of organization of the exuded liquid. Mr. Paget also states the following important facts, which are relevant to this subject: "The superficial suppuration from inflamed mucous membranes is closely related to that from an ulcerated surface. I think, indeed, that an inflamed mucous membrane may yield purulent matter, even though it remain covered with an epithelium. I believe this happens in gonorrhœa and in purulent ophthalmia; the vascular tissues, in these affections, appear still to have an epithelium on them, though perhaps it is too thin and immature, and is reduced to a condition analogous to that of the thin and moist glistening epidermis on the inflamed 'weeping leg.' But observations are wanting on this point. The transition to the suppuration from an ulcerated surface takes place when the epithelium is wholly removed from a mucous membrane. This constitutes its abrasion or excoriation; in the next stage the surface of the membrane itself is cast off, and this is its ulceration or erosion." (*Paget's Surgical Pathology.*) Again, this clear-minded and candid pathologist remarks concerning ulcerative inflammation: "Of all that Hunter wrote, nothing, I think, is so intricate,

so difficult to understand, as his chapter on ulcerative inflammation; and much of the obscurity in which he left the subject remains. Some of this depends on the same terms having been used in different senses, and may be avoided if it is agreed to speak of the removal of those particles of inflamed parts which are not an open or exposed surface, as the 'interstitial absorption' of inflamed parts. Then the term 'ulceration' may be employed to express the removal of the superficial or exposed particles of inflamed parts; or rather, when the epithelium or epidermis of an inflamed part is alone removed, it may be called 'abrasion' or 'excoriation;' and when any of the vascular or proper tissue is removed from the surface, it may be called 'ulceration.'"—(*Op. citat.*)

Judged in the light of these technical and pathological distinctions, it is plain that Dr. Bennet employs the term "ulceration" in a sense altogether too wide and indiscriminate; but we think that no one need be misled who reads his treatise. He is certainly not as wide from the truth as is Professor Meigs, who asserts that "ulceration of the womb is among the rarest of disorders." The manner and form in which ulceration of the cervix uteri occur is most graphically illustrated in the elaborate paper by Dr. Tyler Smith and Mr. Hassell, on the Pathology of Leucorrhœa .(*Med. Chir. Transact.*, vol. xxxv.)

We have thus called attention to the "vexed question" which has so long been acrimoniously but idly discussed, believing that the pathological facts, and the unsettled points therewith connected, to which we have referred, serve to place the whole subject in a true light, and to explain the discrepancies which exist in the statements of different uterine pathologists.

Dr. Bennet's chapters on the treatment of inflammatory affections of the uterus constitute the most meritorious and practically important part of his treatise; yet we have become satisfied that he presents the importance of topical or surgical treatment in too strong a light, and that he too freely commends the use of the stronger caustics. However, our own experience has taught us that something more than the "antiphlogistic contacts" of nitrate of silver is not unfrequently necessary in the treatment of ulceration and inflammatory conditions of the cervix uteri.

In his chapter on Ovaritis, &c., Dr. Bennet attempts, but we think unsuccessfully, to overturn the conclusions of Mr. Tilt upon that subject; yet the facts and reasonings adduced by our author are highly important, and practically suggestive.

On the subject of displacements of the uterus, Dr. Bennet has, in a few pages, given suggestions which are of greater practical value to

the profession than all else that has ever been written, if we except, perhaps, the excellent dissertation of Dr. Peebles of Virginia.

The chapter on Syphilitic Ulcerations of the Neck of the Uterus is very valuable, but we must demur at some of the author's conclusions concerning the nature of the *non-cancerous-looking* ulcerations which complicate the various forms of secondary syphilis. He very summarily sets aside the conclusions of M. Gibert, in reference to the specific character of a large proportion of the ulcerations which occur about the cervix uteri in persons suffering from secondary forms of syphilis. If our observations and study upon this subject have not misled us, we are bound to conclude that the conclusions of M. Gibert are more nearly correct than those of Dr. Bennet.

The closing chapter of Dr. Bennet's treatise is devoted to the subject of diagnosis of cancer of the uterus, and for it the profession, as well as the unfortunate sufferers from inflammatory affections of the uterus, may be grateful; for it is perfectly manifest that the popular notions on this subject are not only entirely erroneous, but adapted to embarrass the practitioner, and also cause great damage to the suffering patient.

Notwithstanding that Sir Charles Clark, Dr. Montgomery, and Dr. Ashwell, have taught that the forms of induration, which they term cancer of the uterus, are generally curable in their incipient stage, —which is the only stage at which any of them are seen,—except in the cases of really malignant disease, which, so far as the histological evidences indicate, are certainly observed very rarely, we think that all who hold such doctrines concerning cancer of the uterus will find their minds very frequently and unnecessarily embarrassed in reference to these cases in practice; for it is conceded that it is not only hazardous, but utterly unjustifiable, to venture upon any surgical treatment of carcinoma uteri, short of amputation of the diseased portion. Hence, many a poor sufferer has been doomed by her medical advisers to endure a most vexatious malady, but, at the same time, one of the most curable of structural disorders of the womb.

Our prescribed limits forbid that we should enter more fully upon the discussion of this important subject, and we will here close this notice of the interesting treatises before us, with the expression of the hope that whoever reads the report and treatise by Dr. Meigs, will also attentively study the incomparably excellent work of Dr. Bennet, and the forthcoming treatise by M. Jobert de Lamballe, which is shortly to be issued from the press of the Messrs. Wood of this city.

E. H.

BIBLIOGRAPHICAL NOTICES.

ART. XIII.—*On Rheumatism, Rheumatic Gout, and Sciatica, their Pathology, Symptoms, and Treatment.* By HENRY WILLIAM FULLER, M. D., Cantab., Fellow of the Royal College of Physicians, London, &c., &c. New-York: Samuel S. & William Wood, 261 Pearl-street. 1854. 8vo., pp. 322.

THIS is a reprint of Mr. Fuller's Treatise on Rheumatism, an elaborate review of which appeared in this Journal for November, 1853, soon after its publication in London. We would refer the reader, who may wish to estimate correctly the merits of the work, to that analysis. The publishers have done full justice to the mechanical execution of the work.

ART. XIV.—*Elements of Human Anatomy; General, Descriptive, and Practical.* By T. G. RICHARDSON, M. D., Demonstrator of Anatomy in the Medical Department of the University of Louisville, &c., &c. Philadelphia: Lippincott, Grambo & Co. 1854. 8vo., pp. 734.

THIS work is put forth as possessing claims for improvement, upon previous treatises on anatomy. 1st. In the union of general, descriptive, and practical anatomy in the volume. 2dly. In the arrangement of the section devoted to practical anatomy, so as to secure the greatest possible economy of *material*; and lastly, in the substitution of English for Latin terms, wherever this appeared to be practical and judicious.

There is good reason to believe, that the experience of teachers and students will sanction the production of a work on enatomy upon these grounds, and from the limited examination we have given the volume, we believe it well adapted to the wants of student and teacher.

ART. XV.—*Lectures on the Diseases of Infancy and Childhood.* By CHARLES WEST, M. D., Fellow of the Royal College of Physicians; Physician to the Hospital for Sick Children, &c., &c. Philadelphia: Blanchard & Lea. 1854. 8vo., pp. 487.

THIS is the second American from the second London edition of Dr. West's truly practical work on the diseases of children. The additions to the text of the English edition amount to some fifty pages, thus supplying not a few of the deficiencies of the first edition.

ART. XVI.—*History of the Epidemic Yellow Fever at New-Orleans, La.*, in 1853. By E. D. FENNER, M.D., President of the Louisiana State Medical Society; one of the Visiting Physicians of the New-Orleans Charity Hospital, &c., &c. New-York: Hall, Clayton & Co., Printers. 1854. 8vo., pp. 84.

Tableau of the Yellow Fever of 1853, *with Topographical Chronological, and Historical Sketches of the Epidemics of New-Orleans since their Origin in* 1796, *illustrative of the Quarantine Question.* By BENNET DOWLEN, M.D., Corresponding Member of the Academy of Natural Science of Philadelphia, &c., &c.

THESE two productions, widely different in their general characters, are worthy of the pens of their authors. They contain an amount of general statistical and historical information nowhere else to be found, and must in future time be sought after as essential documents in a correct medical history of our country. We regret that want of space prevents us from noticing in detail the interesting contents of these publications.

ART. XVII.—*A Report to the Indiana State Medical Society on Asiatic Cholera, as it prevailed within the State of Indiana during the Years* 1849, 1850, 1851 *and* 1852. *With Observations on the Laws which govern its Progress.* By GEORGE SUTTON, M.D. Indianopolis: Elder & Harkness, Printers. 1854. 8vo., pp. 67.

THIS is a valuable report, and presents the best summary of the progress of Cholera in the State of Indiana that we have seen. The materials from which it was prepared were derived mainly from facts communicated to Dr. S. by the principal physicians of the State.

ART. XVIII.—*A Report on the Health and Mortality of the City of Memphis, for the Year* 1843. By CHARLES T. QUINTARD, A.M., M.D., Professor of Physiology and Pathological Anatomy, in the Memphis Medical College. (Published by order of the City Council.) Memphis, 1854. 8vo. pp. 32.

THE perusal of this report has afforded us much pleasure. In a future number of this Journal, we hope to lay some of the facts which it contains, before our readers.

ART. XIX.—*Constitution and By-laws of the Medical Association of Texas. Instituted Jan.* 17*th*, 1853. *Incorporated by the fifth Legislature*, 1853–54. *Proceedings of the last Annual Meeting, together with the Anniversary Address, delivered by* GEORGE CUPPLES, M.D., November, 1853. Austin Jo. Walker, Printer. 1854. 8vo. pp. 30.

WE are pleased to see that a state medical organization has been effected in Texas. It will tend to promote unity of feeling and concert of action, which must conduce to the general welfare and improvement of the profession. The officers for the present year, are Dr. Geo. Cupples, of San Antonio, *Pres.;* Drs. S. K. Jennings, Jr., and Jno. T. Alexander, *Vice-Pres.;* Dr. R. N. Lane, of Austin, Rec. Sec.; Dr. A. J. Lott, Corres. Sec.

PART THIRD.

FOREIGN MEDICAL RETROSPECT.

PRACTICAL MEDICINE.

Fermentation in the Contents of the Stomach, with Development of Sarcinæ. By GEORGE BUDD, M.D.—It appears that the peculiarity of the disorder we are considering consists in this, that the secretions of the stomach, which seem to be usually more abundant than natural, undergo or excite in the food in the stomach, and after they have been thrown up from it, a fermentation which is attended with the evolution of carbonic acid, and with the production of torulæ and sarcinæ, and which leads to the formation of acetic acid. The production of the disorder seems to require that there shall be some condition which prevents the stomach from completely or readily emptying itself. The disorder may occur in young persons, and exist for a short time, as in one of the cases related by Mr. Busk, and in a case that has been recorded by Dr. Bence Jones, in which it was noticed a short time before death in a boy of 14, who died of peritonitis and granular disease of the kidney; but it has been most frequently noticed in men who have reached middle age,—persons more liable than any others to simple stricture and cancer of the pylorus, and to other diseases which prevent the stomach from completely emptying itself,—and in such persons the malady is usually of long duration, and may, indeed, continue to the end of life. The appetite is generally good, but the indulgence of it is followed by flatulent disension of the stomach attended by a sense of burning or other uneasiness, which, when an ulcer of the stomach exists, sometimes amounts to almost agonizing pain. When the disorder is slight, the heart-burn or uneasiness at the stomach continues for some hours, and then gradually subsides, as—in one way and another, by the absorption and discharge of its contents,—the stomach gets empty. When the disorder is in higher degree, the uneasiness persists until it is relieved by the vomiting or eructation of a clear, sour, fermenting liquid. The quantity of this liquid ejected at once varies in different cases and at different times; and when an obstruction at the pyloric orifice has long existed, and the stomach has become much enlarged, sometimes amounts to two quarts or more. When much is thrown up from the stomach, the bowels as in ordinary cases of stricture of the pylorus, are usually costive. There is, in most cases, complete absence of fever, but sleep is often much

disturbed by the distension and uneasiness of the stomach, which, as they result from eating, are more distressing in the evening and at night than in earlier parts of the day. The disorder of digestion, the pain, the disturbance of sleep, cause loss of flesh, and after the malady has lasted long in high degree, the patient is usually emaciated, has a dry skin, a slow pulse, and the look of a person with serious organic disease of the stomach. The disorder is readily recognised when it is in such degree as to cause vomiting, by the circumstance, that the matter thrown up from the stomach ferments, and that both the foam which collects on its surface, and the sediment it throws down, contain abundance of sarcinæ and torulæ. It would seem, from the evolution of carbonic acid, from the development of torulæ, and from the fact, that alcohol was detected by Professor Graham in the matter vomited in a case of this kind, that common alcoholic fermentation is the first step in the process of transformation; but the alcohol appears to be rapidly transformed, and the process ends in the production of a large quantity of acetic acid. No symptoms of intoxication have been noticed in cases of this kind.

As the production of acetic acid from alcohol requires a large quantity of oxygen, there can be little doubt, that where, as in the analysis published by Mr. Goodsir, a very large quantity of acetic acid has been found in the matter vomited, much of this acetic acid has been formed after the matter has been ejected from the stomach. We know that fermentation goes on actively in the matter ejected, and the conditions for the acetification of alcohol would seem to be much more favorable when the matter is exposed to the air than when it is shut up, excluded from the direct influence of the air, in the body. It must not be supposed, however, that this peculiar fermentation constitutes the whole disease. The disease consists primarily and essentially of some organic change which prevents the stomach from completely or readily emptying itself, and which causes a secretion from the coats of the stomach which when mixed with the food, is prone to undergo or to excite the fermentative process in question. The fermentation may be stopped for a time; the matter thrown up from the stomach may be alkaline, and contain no sarcinæ, as happened to Barraston during his stay in the hospital; but the patient, instead of being then well, has the more common kind of disorder which an impediment to the emptying of the stomach causes. The question then arises,—How is it that an impediment to the emptying of the stomach leads to this kind of fermentation in some cases and not in others? Is there any peculiarity in the organic change in the particular cases in which the fermentation occurs? It is curious that, in two of the cases related by Mr. Busk, the disorder resulted from hernia of the stomach through the diaphragm, the coats of the stomach itself being sound. The development of the sarcinæ has probably the same relation to the fermentative process, or to some stage of the fermentative process, as the development of torulæ has to simple alcoholic fermentation. It is worthy of note that sarcinæ are not peculiar to the stomach. They have been found in other animal secretions in a state of decomposition. In a review of Lehmann's "Physiological Chemistry," in the *British and Foreign*

Medico-Chirurgical Review for 1851, it is stated, that sarcinæ have been once detected in the urine by Heller; and Dr. Beale tells me that he has discovered them once in urine and once in decomposing bile. But, although the development of torulæ and sarcinæ cannot be considered the primary cause of the stomach disorder, the fermentation that attends it, by leading to the evolution of gas, and the formation of acetic acid, and thus distending and fretting the stomach, terribly aggravates the sufferings which the impediment to the emptying of the stomach, which is the origin of the mischief, would otherwise produce. The heart-burn and uneasiness of the stomach may be lessened, by neutralising the excess of acid by carbonate of soda or some other alkali; but the readiest, perhaps, in most cases, the chief means we have of relieving the disorder, are the agents which tend to prevent the fermentative process. The fermentative process may be checked by creosote, which has a remarkable influence in checking fermentation of various kinds, and which was given with benefit in three of the cases noticed above, and in several others, of which accounts have been published in the Medical Journals. Small doses—a minim or half a minim—in the form of a pill, might prove sufficient if taken, as it should be, at every meal.* If we may judge by the case of Burraston, the fermentation may also be checked, and the disorder, in some cases, be much mitigated by large quantities of common salt. A more effectual remedy still is, perhaps, the bisulphate of soda, which is a powerful antiseptic, and has been, of late years, much used in some anatomical schools, to preserve bodies for dissection. It has also been used to prevent the fermentation of vegetable juices. It owes its virtues to the circumstance, that it is decomposed by almost any vegetable acid, and that its decomposition liberates sulphurous acid, which has great power to prevent alcoholic and acetous fermentation.† The merit of suggesting it as a remedy for the disorder we are considering, belongs I believe, to Dr. Jenner who gave it with much success in the case to which I have before referred. I have myself tried it with much benefit in several cases in which the symptoms were like those that attend the vomiting of sarcinæ. From ʒss. to ʒj. of it may be given, dissolved in water, two or three times a day; and probably, with proper care as to the times of giving it, smaller doses would prove sufficient. There are, perhaps, many other agents having power to prevent fermentation, that might prove beneficial in the same way. In chronic cases of the disorder, the drain from the coats of the stomach, and the frequent throwing up of part of its contents, causes constipation; and it is requisite to obviate this condition, since any undue accumulation in the bowels aggravates the stomach-disorder. The best aperients are probably aloetic or colocynth pills. When the disorder is severe, and the patient reduced in flesh, opiates, timely administered, are of much ser-

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* In the new mode of preparing vinegar from alcohol, by making the alcoholic liquid frequently strain through twigs or shavings, it is found that any charring of the twigs or shavings entirely prevents the acetification of the liquid.

† In some parts of Devonshire, sulphurous acid generated by the burning of sulphur, is used to arrest fermentation, and prevent acetification in cider.

vice in lessening the uneasiness at the stomach, and promoting sleep. It now and then happens, that the disorder co-exists with chronic ulcer of the stomach, and that eating solid food causes *pain* in the stomach, which is different from the uneasiness that results from distension of the stomach, and pain also in the corresponding part of the back. In such cases, as in ordinary cases of simple ulcer, the diet should be of the least irritating kind. By the various means which I have now enumerated, the disorder may be greatly mitigated, the strength of the patient kept up, and his life prolonged; which is as much as can be promised for any disorder which originates, as this usually does, in irremovable organic changes.—*Med. Times and Gaz.*

Spinal Irritation. By Robert Leaw, M.D.—That there is such a disease as spinal irritation I firmly believe. I further believe that there are two forms and modifications of this disease, as different in their nature as they are in the treatment they require. That one is of a constitutional origin, and is often induced by moral causes operating on the spinal marrow, which we may regard as the emotional department of the nervous system, and propagating their disturbing influence to the different organs situated along the spine. That different circumstances and causes influence the secondary organic affections, such as natural or acquired weakness, or morbid susceptibility in any of these organs. Period of life, too, according to which one organ may have its function more exercised than at another period, will serve to give a direction to this reflected morbific influence. The peculiar desultory or intercurrent character of this modification of disease is its characteristic feature, and with this I would connect its comparatively harmless character. It does not dwell sufficiently long in any portion of the spine to allow time for actual disease to establish itself in the contiguous organs. It changes its place too rapidly for this, and this shifting, versatile character has created the difficulty of bringing it within the limits of any general description. This is the reason, too, why its true pathology is so little understood, as it so rarely supplies material for post-mortem examination.

As this is essentially a constitutional disease, to which the local organic affections are mere accidents, so the treatment should be constitutional, with a due regard, however, to the local affections. Its changeableness and inconstancy preclude me from entering into the details of treatment, I can only deal in generalities. While the appropriate treatment is essentially tonic, we may employ local depletory measures with great benefit. I have remarked, in my observations on the fever that prevailed in Ireland in 1847–8, how frequently the symptoms of spinal irritation and most distressing pains in the course of the spinal nerves exhibited themselves, and how constantly these symptoms disappeared from the application of leeches to the spine, at the same time that the constitutional treatment consisted in the almost exclusive use of stimulants. I believe that these pains are, if I may so express it, an exaggeration of the feeling of *malaise*, so constant as an early symptom of fever, which I conceive to be a modification of

the peripheral sensibility, dependent upon the state of the capillaries, which are probably in a too congested condition, and that the relief from leeches is due to the removal of this congestion. And although it may appear inconsistent and paradoxical to deplete and stimulate at the same time, yet these opposite means are really promoting the same end. The overstrained and overloaded vessels are relieved by the leeches, and acquire from the invigorated system additional power to act upon their diminished burden. I have found hot stimulating liniments rubbed along the spine signally useful in relieving this feeling of discomfort, which I attribute to their stimulating influence on the capillaries.

The other modification of the disease is when it is of local origin, and where the spinal affection is secondary to and dependent upon some organic lesion situated in the spine itself, or in some organ from whence it is reflected upon the spine, and thus simulates a case of original spinal irritation. I saw a remarkable case of this kind, in which an insidious process of caries of the vertebræ eluded the observation of one of the most careful surgeons I ever knew, and was not detected until palpable deformity had occurred. In this case the patient at one time labored under the most distressing sickness of stomach I ever witnessed, and nothing seemed to exercise the slightest control over it. When it ceased, the patient suffered from violent palpitation of the heart and occasional hemoptysis. These, however, proved themselves more amenable to the influence of medicine. The patient ultimately attained to perfect health; the organs also resumed their normal regular action when nature had completed her cure of the caries.—*Dublin Quarterly Journal.*

Sciatica.—Mr. Hancock read a paper on the causes and treatment of Sciatica before the Medical Society of London, Feb. 28, (*Med. Times and Gaz.*,) of which the following is an abstract: He alluded to the various causes assigned as producing sciatica—viz., disorder of the stomach and bowels, inflammation and disease of the sciatic nerves, syphilis, gout, obstruction and distension of the caput coli, tumors, or accumulated fæces in the course of the nerve, effusion of fluid into the sheath of the nerve, irritation and disordered state of the kidneys, and rheumatism, either acute or subacute; but that from the cases which had fallen under his observation, the prevailing opinion appeared to be that sciatica depends mostly upon rheumatism—an opinion which he considered erroneous, as having had ample opportunities of arriving at a conclusion, he felt convinced that the cause most productive of the complaint was irritation within the pelvis, either from loaded colon or cæcum, or from tumors formed within that cavity, or, as had been suggested to him by his friend and colleague, Mr. Goldsboro, by the hæmorrhoidal vein, which, forming a complicated plexus over the sacral plexus of nerves, would, when congested and engorged, cause undue pressure and irritation of the nerve; that although he would not presume to assert, in opposition to the high authorities who differed from him, that the disease never depended upon rheumatism, still he main-

tained that it so seldom did so, as to constitute the exception to the general rule, and not the rule itself. Mr. Hancock then enumerated some of the modes of treatment, recommended such as bleeding, cupping, calomel and opium, colchicum, quinine, carbonate of iron, Indian hemp, acupuncture, actual cautery, blisters, moxas, puncturing the limb, and introducing morphia and creasote into punctures. He did not consider the disease difficult of cure; on the contrary, he had found it readily and speedily yield to the remedies he had adopted, which consisted in thoroughly purging the patient with small doses of croton-oil, combined with blue pill, henbane, and compound extract of colocynth, and removing the sensation of bruising in the course of the nerve by the sulphate of quinine, in doses of three grains thrice daily. He had commonly given croton-oil, because he had found it useful and convenient, but he did not attach any specific influence to this medicine, as he had found equally good results from turpentine and castor-oil, the aloetic purgatives; and he considered that any medicine acting upon the lower intestines would be of service. He did not consider local applications at all necessary, but that they were frequently injurious, by adding to the patient's sufferings. He narrated five cases which had fallen under his care, having been previously treated for rheumatism by the remedies appropriate for the affection, but without success. In one the sciatica had existed for nearly two years; in another, for above twelve months; and in the remainder, from four to two months. The most obstinate of these was cured in three weeks, and the remainder in a fortnight, the latter period being that usually required. He could give many more cases of a similar character, but he thought those he had described were sufficient to prove the validity of his position, that in a vast majority of instances the disease did not depend upon rheumatism, but upon the causes which he had already alluded to; and he directed the attention of the Society to an interesting fact, which he had not found noticed elsewhere—namely, that sciatica almost always occurred on the right, and very seldom indeed on the left, side of the body; and when it did, he believed it was caused by impaction in the sigmoid flexure of the colon. In the majority of cases the affection commenced with stiffness, weight, and pain in the lumbar region, resembling lumbago. He was inclined to attach some importance to this fact, as affording a means of diagnosis between those cases depending upon loaded intestine and those resulting from tumor in the pelvis; and that where this symptom is absent, it is desirable to institute a careful examination, not only above Poupart's ligament, but in the perineum within the tuber ischii, and also by the introduction of the finger within the rectum. He had in two instances detected the existence of tumor in the pelvis by adopting these measures; and he thought this the more desirable from the importance of avoiding irritation as much as possible in cases of this description.

Galium Aparine in certain forms of Cutaneous, Scrofulous, and Cancerous Diseases.—When Dr. Winn first drew the attention of his professional friends to the properties of this plant, two years since, he was only aware of its efficacy in treating lepra; since then he has ascer-

tained its benefit in other skin diseases. Dr. Winn then related the circumstances which led to his acquaintance with the galium aparine. A friend of his in Truro, who had suffered for many years from lepra vulgaris, and had taken all the usual remedies in vain, informed him, that he possessed at last a remedy for his troublesome complaint in a common wild plant, of which he did not know the name. Dr. Winn found this plant to be galium aparine, which grows abundantly in England; and, on further inquiries, learned, that three other persons in that district had been cured by the same remedy, one of whom had been discharged from St. George's Hospital as an incurable patient. After a botanical sketch of the plant, Dr. Winn expressed his belief, that the ancients were acquainted with this plant, and that it is identical with the ἀπαρίνη of Dioscorides. On referring to some very old authorities, he ascertained, that the galium was much in vogue as a domestic remedy in this country many centuries since; it was then highly extolled as a cure for cancer, scrofula, leprosy, and dropsy. An Italian writer, Giuseppe Ferramosia, had published in *Schmidt's Jahrbücher*, an account of several cases of scrofula, in which the galium appeared to produce rapid absorption of enlarged scrofulous glands. Diebach had also recommended it for phthisis, ascites, and scrofula. Richter considered it beneficial in strumous affections. Dr. Winn wished to direct attention to the fact of galium having been efficacious in glandular affections as well as lepra; it tended to confirm the theory, that the two diseases were owing to the same cause, a strumous diathesis. It was also a remarkable circumstance, and one not generally well known, that arsenic is highly beneficial in glandular swellings. Mr. H. Rees, an experienced and successful practitioner in the diseases of children, informed Dr. Winn that he had tried arsenic in infantile glandular affections, and proved it to be a most efficacious remedy. When first Dr. Winn tried the galium it was in the form of a decoction; but finding this mode inconvenient, he requested Mr. Hooper, of Pall Mall, to prepare an inspissated juice, and that able operative chemist had succeeded in making a very valuable preparation. A teaspoonful of the juice equals in strength a half pint of the decoction. In ordinary cases a drachm taken three times daily will be found sufficient, but in obstinate affections the dose must be doubled. The juice of the galium had been analysed by Ferremosia and Robert Schwartz. The former gives as its constituents acetate of potass, gallic acid, tannin, extractive, water. The analysis of Schwartz is somewhat different. He gives its component parts thus: Galitannic acid, citric acid, rubichloric acid, chlorophylle, starch. With regard to the *modus operandi* of the galium, Dr. Winn said he had little to offer but what was merely conjectural. Many of his patients were conscious of an increased flow of urine during its use, possibly from its acting on the kidneys as a depurating agent. The class of cutaneous diseases which had been benefited under his own observation, was chiefly that dependent on a state of dyscrasia, such as lepra and psoriasis. He also considered these diseases as often arising from a strumous diathesis. The gentleman suffering from lepra, whose case had been referred to at the commencement of the paper, was one of a very consumptive family. In him the family disease had mani-

fested itself under another form. It is highly important that the fluid extract be perseveringly used. Many patients have failed, no doubt, from not having given the remedy a sufficient trial; the same may be said of arsenic. Dr. Winn had tried the galium in 19 cases of skin diseases. Of these, five were cases of lepra; six of psoriasis; four of eczema; two of lichen; one of inflamed acne; and one of ordinary copper-coloured syphilitic eruption. In nine of these cases the benefit derived from this medicine was very striking. In one, an instance of lichen circumscriptus, the effect produced by substituting the galium for other remedies was almost marvellous. With regard to the efficacy of this plant in the treatment of cancer, Dr. Winn was solely indebted to the experience of Mr. Bulley, of the Bucks Hospital, who had forwarded to him an account of two cases of cancer in which the galium appeared to exercise a remarkable influence in arresting the disease.

Pemphigus.—The following are the conclusions appended to a report of eighteen cases of Pemphigus, (*Med. Times and Gaz.*):

1. That pemphigus is a disease affecting all periods of life; especially liable to occur between the ages of 4 and 25.
2. That, like many other skin diseases, it very frequently recurs in those who have once been its subjects.
3. That it usually affects those only of a fair complexion and thin skin. (To this we find no exception among the cases in which note has been made as to the complexion.)
4. That it is rather more common in the male than the female sex.
5. That its severe chronic and relapsing forms are more frequent than the benign and transient.
6. That the parts most liable to be affected are the legs, arms, genitals, abdomen; seldom the face, and very rarely the hairy scalp.
7. That the serum of the bullæ is almost always alkaline. (It was tested in most of the cases, and no exception occurred; the alkalinity was generally very great.)
8. That it is very rarely a symptom of congenital, and perhaps never of acquired syphilis.
9. That it occurs commonly to those of good physical conformation, but is mostly coincident with temporary cachexia.
10. That it is not very markedly influenced by season.
11. That its idiopathic infantile form is a very mild disease, and will usually recover spontaneously.
12. That it is not, as a rule, associated with any particular form of cachexia. (In but two of the above cases were the patients scrofulous; none were known to be rheumatic, or to have had ague; dyspepsia was an attendant in but few.)
13. That the general indications are for the use of tonic regimen and generous diet, but that these will not suffice for the cure.
14. That arsenic may be esteemed an almost specific remedy even in the worst class of cases. [The careful perusal of the preceding series, will, we think, convince the reader that this proposition is not too strongly put. Many of the patients were, when admitted under Mr. Startin's care, in a truly deplorable condition,—the disease had

produced extreme irritation, it had lasted for many months or years, it had resisted all sorts of treatment previously. In every instance but two the most marked benefit attended the adoption of the arsenical plan.]

15. That arsenic does not merely repress the eruption, but remedies the unknown constitutional cause on which that symptom depends, always very much benefiting the general health of the patient.

16. That arsenic does not prevent the liability to subsequent attacks, but that such attacks are always much less severe than the original one, and tend, if treated by the same remedy, to diminish in intensity on each successive occasion.

17. That the early age of the patient does not in the least forbid resort to the arsenical treatment.

Those acquainted with the literature of this subject will observe, that the above conclusions differ considerably in some respects from the statements to be found in books. The disease itself may probably differ somewhat in London and on the Continent. Gilibert, whose monograph on it is the best extant, appears, for instance, to have met with but three examples of chronic pemphigus, all of them in elderly and enfeebled subjects. A current opinion has accordingly prevailed, that that form is almost peculiar to the aged, while the fact is, as we have above shown, that in London, at any rate, the young are much more frequently its subjects. Cases of relapsing pemphigus, or those in which the disease has extended over many years, do not appear to have attracted much notice from previous writers. Pemphigus is not known to prevail endemically in any part of England; on the contrary, it seems to be about equally scattered over all districts. Two cases came under our notice in York some years ago, and during the last summer we saw a very well-marked case in the Leeds Infirmary, under the care of Mr. Samuel Hey. Mr. Hey informed us, that the disease was very rare in Leeds, and that he had, during many years, seen but that one example. There does not appear to be much foundation for the opinion that the disease prevails most in damp localities, and on the banks of rivers Such a notion is supported by but a small proportion of the above cases. The preceding series probably scarcely presents the benign and chronic forms in their due proportions as to frequency of occurrence, since cases of the former are often of so transient a character that they never come under care at Hospitals. With regard to the treatment of the chronic form by arsenic, we have recorded *all* that we have seen. A case has been mentioned to us, however, by a gentleman of very careful observation, is which the arsenic is stated to have quite failed to cure the disease, while it seriously interfered with the patient's (a child) health. We have not obtained particulars as to administration, etc.

SURGERY.

On a Peculiar Disease of the Rectum.—We find among the "Selections from the unpublished Manuscripts of the late Abrahan Colles" (*Dub. Quart. Jour.*) the following fragment of an essay on a peculiar disease of the rectum:— But, although the following remarks

cannot furnish us with an insight into its nature and cure, yet I trust it may be a task not unworthy of your notice to lay before you the symptoms of this disease, which, I fancy, has been long known to practitioners, but the symptoms and natural history of which I cannot find recorded in any surgical works. I have seen it attack patients of both sexes indiscriminately, and persons of all ranks of life indifferently. I have met with no instance where it occurred before puberty or after 60; it may attack at any age between these two periods. Many of these unhappy people commence the history of their disease,—that their bowels had been obstinately costive for some days, or even for weeks; that they had taken very large and repeated doses of salts and other purgative medicines without having been able to procure a single evacuation; that this long-continued constipation of the bowels at length gave way, and on passing a stool a large discharge of pure blood, or blood mixed with purulent matter, to the amount of some quarts, followed the evacuation. With other patients, a tenesmus for a few days preceded this costiveness; the tenesmus having continued some days, many of them then perceived a lump or fulness at the verge of the anus, which they did not notice previously, and which they conceived to have been caused by the affection. Some few of these patients cannot refer the commencement of the disease to any particular period; they have never been sensible of any lump or tumor. Such persons generally mention that they had often been subject to inward piles in the rectum.

'However different the commencement of the disease may be in different patients, yet they are all similarly affected in its subsequent stages, for after this first large evacuation of blood, or other fluid, the patient is troubled with a frequent desire to go to stool, on which occasions, in general, nothing but a very small quantity of fluid escapes, sometimes a table-spoonful of a glutinous matter, sometimes more thin and liver-coloured. Seldom is a feculent stool passed, and when it is, the patient is sensible of a contraction in the gut, or diminution in its caliber; if the fæces be hardened, the evacuation is attended with excessive pain; if of a more soft, though solid consistence, the diameter is much lessened, sometimes not exceeding that of a writing pen. They generally pass two, three, or more days without a feculent stool unless they use some article of diet or medicine for the purpose of evacuation. From the description of these patients, it appears that the tenesmus which accompanies the alvine discharges is the prime source of this distress. The stools vary in number on different days, sometimes amounting to twenty, seldom fewer than six or eight. After the disease has continued in this state for some indeterminate period—a few months or years—the condition of the patient is rendered more distressing by a discharge of a thin, ichorous or coffee-colored fluid, which flows from the rectum when he coughs, or walks, or uses any bodily exertion; not unfrequently his nights are rendered still more uneasy by the flow of this matter as he lies in bed. The urinary discharge is, in some instances, affected even early in the disease; in some few by a difficulty or delay in commencing this evacuation; in others, by an inability to void the last drops. In the very

last stages the urine cannot be voided without causing an irresistible desire to go to stool.

'If we examine the rectum we may there perceive one or two excrescences at the verge of the anus. These seem to be formed partly by the lining membrane of the gut, at least their inner surface appears like a secreting surface or excoriation. In many instances, two level excrescences lie with the adjoining edges in contact, so as to resemble the arytenoid cartilage, or the spout of an ewer. The patient being desired to press down or strain as if at stool, a few drops of a liver-colored fluid are discharged. A hard mass can, in some instances, be felt by pressing around the anus. On introducing the finger into the rectum a hardness and roughness, caused by innumerable protuberances, is to be felt seated at different heights. In some it commences immediately at the very verge of the rectum, and extends nearly as high as the finger can reach; in other cases this morbid condition does not extend beyond that portion encircled by the sphincter; and in others again, the disease is seated still higher up. In all, considerable resistance is given to the introduction of the finger, not only by the narrowness of the canal, and its projecting irregularities, but also by the firm, unyielding hardness of the diseased portion. In one or two instances the canal of the gut was particularly contracted in one spot—as if a small aperture had been left in a membrane which stretched across the gut. The introduction of the finger in all instances has given considerable pain, but if the finger be slowly passed up the gut it will be found gradually to dilate, and then admit the examination with less distress. The hardness which is felt in the substance and neighbourhood of the gut does not always uniformly surround it. In some instances the hardness is felt at one particular spot, as if a tumor lay connected with the coats of the intestine at this part. There is one symptom which is to be met with in, perhaps, every third or fourth person affected with this disease, and which deserves particular attention—it is an external fistulous opening at or near the verge of the anus, which yields a discharge resembling in quantity and quality that of the ordinary fistula, and by no means of the same quality with that passed through the canal of the intestine. I have myself, before I was aware of the nature of the disease, cut one of these patients as for fistula, and have seen more than a few instances in the hands of other practitioners, and always with this remarkable effect, that these incisions, in general, healed as kindly as if the fistula had been the only disease; and in no instance—not even one I had cut, and in which the incision did not heal up—could it be said that the operation added to the subsequent distress of the patient, or exasperated the original disease. Where the fistulous opening occurred in cases with a tumor at some particular spot of the gut, the fistula was found to lead to such tumor.

'I have not been able to trace in the relation of these cases that any of the patients experienced any constitutional symptoms which could be considered as precursors or attendants on the first stage of this local disease. Nor does it, during the greater part of its progress, seem to make any impression on the constitution—indeed, my aston-

ishment has been excited on perceiving that such trains of local distress had not produced any sensible decay in the general habit. I should observe, that in one instance only vomiting accompanied the first attacks of this disease. Symptoms of hectic fever first denote the injury done to the constitution. The time at which these appear differ in different individuals: in some so early as six months, while others have remained with the constitution unimpaired for as many years. In one case there was not any regular hectic, the patient was reduced to the most extreme degree of wasting and emaciation that I have ever witnessed. I am inclined to think that the appearance of hectic is the only index that can lead us to a knowledge of the probable duration of the disease.

I have had the opportunity of inspecting only one of those whose death had been caused by the disease. It was the case of a gentleman who had never shown symptoms of regular hectic. Some slight marks of inflammation appeared in different spots; on the small intestines a quantity of fluid, partly composed of coagulated lymph, and partly purulent, was found in the pelvis; the alteration in structure was not confined to the rectum, but was remarkable, though not to an equal degree, along the left colon, as may be seen in the preparation preserved in the Museum of the Royal College of Surgeons. The tumor, or hardened part, was closely in contact with the anterior face of the sacrum, so as to render its separation from the bone both difficult and tedious; the bladder was much thickened and contracted. How far the state of the viscus was a consequence of the decrease in the very scanty secretions of its fluid during the last month of life, I cannot pretend to say.

From the history of the symptoms, and the appearances on dissection, I fear we can derive but little useful information which could lead to a successful mode of treatment. I shall now proceed to state the various remedies I have tried, and the results of such trial. From the reports of Desault, on whose authority I have always placed great reliance, I tried, in almost every case, the effects of dilatation. For this purpose I have used a variety of substances, such as prepared sponges, bougie composition rolled so as to form pessaries of various thickness, tallow candles of various sizes, adapted to the diminished capacity of the canal in each case. My expectations, which had been raised so high at reading Desault's cases, I must say, have been completely disappointed, for when the dilatation has been used in the early stage of the disease, before any symptoms of hectic had appeared, although some had steadily persevered in its use, yet I could not discover much amendment in the symptoms, and the most regular of these persons have at length laid them aside, fully convinced by experience of their total inefficiency to afford even a mitigation of their distress. After the accession, the use of the dilating instruments could not be borne by any patient longer than one week, owing to the pain and irritation they occasioned. Those who had been cut for the fistulous openings near the rectum did not experience any relief from the original disease, even in the cases in which the incisions had healed up. One or two of these patients seemed to think the passage was

rather more narrowed after the operation. From the supposition that the disease was cancerous, I have given the solution of arsenic in such doses as to produce the usual symptoms attending its operation on the system, and continued its use for some time, but without producing any alleviation of the suffering. With the same view, and with the same inefficacy, has hemlock been administered. I have used mercury in small doses, so as to excite ptyalism, and have even used this medicine as freely, and for as great a length of time, as is in general sufficient for the cure of secondary venereal symptoms, but have never been able to observe that its use afforded even temporary relief; and not unfrequently has the general health been materially injured by it. Mucilaginous fluids, combined with opium, have appeared to give more relief than any other medicine I had tried; yet this medicine has not uniformly, or even in the majority of cases, been of service. Large leechings are prejudicial.

This disease might be considered as cancerous, but as an objection to this opinion, I must remark, that cancerous diseases are much exasperated by incisions or partial excisions, whereas this disease did not appear to be at all increased by such treatment.

Abscess in the Tibia, by Mr. Simon of St. Thomas's Hospital. Samuel Todd, aged 24, a shoemaker, was admitted, September, 27, 1853, on account of painful swelling in the upper part of his left tibia, from which he had long suffered. The following is the account he gave of his illness. On Christmas-day, 1842, he was out skating, and had numerous falls, by which he received severe bruises in several places. Towards the end of the day he had the misfortune to break through the ice, and was for some minutes up to his neck in water. On being taken out, he did not at once return home, but remained for upwards of half an hour standing about in his wet and half frozen clothes. During the following night, he was unable to sleep, on account of shiverings and pains in his joints. In the morning, a medical man was consulted, who considered the disease as rheumatism, and prescribed accordingly. Leeches were applied to a swelling beneath the knee, but no matter formed there. An abscess, however, formed in one heel, which broke, and continued open for a long time. During the whole six months following, he was unable to walk, and suffered throughout that period intense pain in the shin-bone, a little below the knee, where, however, the amount of swelling was but trifling. Subsequently he resumed his work, but was frequently obliged to desist, on account of attacks of intense pain in the bone. An abscess also formed over the ulna, from which scales of bone came away. Six years later, that is, five and a half from the present time, an abscess formed over the painful part of the tibia, on account of which he obtained admission into one of the London hospitals, where he remained until it healed. No bone came away. With the exception of tenderness and pain in the bone, which rendered him unable to kneel upon it, he remained during the year following in good health; but at the end of that time, having caught cold, as he supposed, an abscess again formed over the part. It healed in a month, and remained well for the

two years next ensuing, when, for a third time, it opened, and he was re-admitted into one of the hospitals. He was discharged from this hospital in March, 1853, and continued well until within five weeks of the time of his admission under Mr. Simon's care. His condition then was as follows:—About two inches below the left knee-joint, over the inner surface of the tibia, the skin was dusky and inflamed, and there were three or four small spots of ulceration, from which pus exuded, but through which no dead bone could be felt. The whole shaft of the bone at this part looked to the eye larger than that of the opposite side, and this opinion was confirmed on handling it, the bone itself seeming to be generally expanded. The man, who was of dark complexion, looked hectic and extremely ill. He was worn out, in fact, by long-continued pain, having for many nights scarcely slept at all. Mr. Simon having examined the part affected, and entered carefully into the foregoing history of the disease, gave at once a decided opinion that there must be abscess within the bone. Whether that abscess depended on a portion of enclosed dead bone, or whether it was idiopathic, he could not say; but, judging from the account given of eleven years' liability to attacks of very severe tensive pain in one particular spot, unattended by proportionate swelling in the soft parts, generally relieved by leeches, blisters, &c., but always returning with increased severity on any exposure to cold, he considered it almost certain that there was deep-seated mischief. He should, therefore, instead of again being content to relieve temporarily by antiphlogistic means, attempt a radical cure, and trephine the bone. The circumstance that the repeated abscesses which had formed had never given rise to exfoliation, or left sinuses, or materially relieved the pain, rendered it probable, Mr. Simon thought, that they had been but superficial, and had not communicated with the internal mischief.

On October 1, accordingly, the operation of trephining was performed. A crucial incision having been made over the affected part, and the skin dissected up, the bone was found to be rough and rather spongy, but not actually carious. The trephine being applied, the external layer was soft, and cut easily; but the deeper ones were thickened, and much indurated. As soon as the instrument reached the cavity, there swelled up by its sides a quantity of thick yellow pus, and, on the plug of bone having been extracted, about six drachms were removed. There was no dead bone. The cavity in which the matter had been lodged was circumscribed in every direction, as was ascertained by probing and introducing the finger. It was lined by a soft villous layer of false membrane. The pus was of the most laudable character, and had no fœtid smell whatever. The sequel of the case may be told in a few lines. Some wet lint was placed in the wound, and the whole covered by a poultice. The severe pain which had before existed never returned. In a few weeks the whole cavity had become filled with firm granulations, and, at the end of November, the man was discharged in excellent health, and with the wound all but healed.—*Med. Times and Gaz.*

On Pedunculated Exostosis of the Long Bones.—We copy from the *Assoc. Med. Jour.* the following abstract of Mr. SYME's paper read before the Medico-Chirurgical Society of Edinburgh:—Mr. Syme remarked upon the loose and ambiguous manner in which the term exostosis had been employed by authors, and the consequent confusion in which the subject was involved. The opinion which Sir Astley Cooper had hazarded as to the origin of the disease in long bones, that it was due to excessive muscular action, he considered was sufficiently met by the two facts—first, that, as in the femur, the exostosis is found by the side of the tendon; and secondly, that it occurs on the distal phalanx of the great toe, where such a cause cannot exist. In young people, the tuberosities of the long bones are frequently enlarged, and occasion much alarm. Mr. Syme, in such cases, finds that symmetry is ultimately restored, and advises non-interference. In his opinion, the occurrence of such cases accounts for a large amount of the so called orthopœdic successes. The ordinary exostosis is not unlimited in growth; but, after a certain increase, it is found to remain stationery. A member of the profession, many years ago, presented himself to Mr. Syme, laboring under what he imagined was subclavian aneurism. Mr. Syme, on making the necessary examination, at once recognized the disease to be an exostosis of the first rib, situated close to the insertion of the scalenus anticus muscle. The subsequent history of this patient showed that the disease did not increase in size. A lady of rank consulted Mr. Syme for a tumor growing into the pharynx, and expressed her wish to have it removed; but, as the tumor presented all the characters of an exostosis, and, from the history, had evidently reached its entire growth, Mr. Syme recommended non-interference. As to the structure of ordinary exostosis, it presents a thin osseous lamina externally, and cancellated tissue within. It is sometimes covered by a thin coating of cartilage. Sir Astley Cooper's definition of this form of exostosis is very defective, and might apply to any bone of the body; and he includes under it two very dissimilar diseases—viz., simple exostosis, and the fibro-cartilaginous tumor of bone. Mr. Syme regretted to find Mr. Paget, in his lately-published lectures, making the same mistake. The two diseases differ *structurally;* the first, presenting a simple bony texture, tipped with cartilage; the second, a cartilaginous matrix, with a bony shell. *Pathologically*, they differ; in the first, there is no tendency to increase, while no limitation can be placed to the growth of the second. Lastly, they differ *practically.* While the first may be successfully removed by the division of its neck, the second can only be extirpated by taking away the whole of the affected bone, or by section at a distance from the disease. Mr. Liston failed to make this distinction, and hence recommended amputation in the case of exostosis of the distal phalanx of the great toe—a practice which was always reprobated by Mr. Syme, and is now abandoned by the profession. With regard to the occurrence of the second form of disease in the upper-jaw, Mr. Syme early saw the folly of attempting to dig it out in piecemeal, instead of removing the whole bone. And as to the priority of having performed this operation, and any merit which might depend thereon, he would

merely state, in passing, that he performed it on the 15th of May, 1829; and that an account of the operation appeared in the July number of the *Edinburgh Journal* of the same year. This fact seems to have escaped most authors of students' books, among whom he might mention Mr. Erichsen as the latest. In the case of the humerus, where this fibro-cartilaginous growth is of most frequent occurrence, Mr. Syme had many years ago removed successfully the entire arm for a growth of this kind, which was one of the largest on record. In another patient where the tumor arose by a neck from the middle of the bone, and was about the size of an orange, the portion of the shaft from which the tumor sprung was included within two incisions, and the whole disease was removed. By the use of leather splints, the use of the fore-arm was in a great measure preserved. To avoid confusion, Mr. Syme was of opinion that tumors formed by bone being developed around serous cysts, abscesses, &c., &c., should be named from the causes occasioning the growth. The disease which formed the especial subject of this paper was most frequently met with on the inner side of the thigh, above the condyle, and at the neck of the humerus. Its neck varied from half an inch to an inch in length, and was always placed obliquely to the shaft. The tumor itself was nodulated, covered with cartilage, and of a pearly lustre, and had no communication with the surrounding parts. In a case which Mr. Syme had met with, where the exostosis was situated on the outside of the femur, similar characters were presented. About twenty years ago, Mr. Syme was consulted by a gentleman who presented an example of the disease in question. He recommended avoidance of violent exertion, and learnt from time to time, that the tumor remained stationary. In February, 1851, Mr. Syme was requested by Dr. Handyside to see his old patient, and found a very decided change. There was swelling and deep-seated fluctuation. A cautious prognosis was given. Rest and a blister, to be followed by gentle pressure, were ordered; and the result was looked forward to with some anxiety. In a short time, all the untoward symptoms disappeared, and the exostosis was found to be in its original state. Another case, which fell under Mr. Syme's observation not long after, sufficiently explained these anomalous symptoms. A servant girl, in crossing from Fife to enter the hospital for the same disease, received a blow which fractured the neck of the tumor, and detached it. Fearing suppuration, Mr. Syme cut down upon the loose exostosis, and found it lying in a bag of serum. On examination, all was explained; a synovial membrane covered the tumor, and was reflected in the form of a cyst, so that a double covering existed; and in the present case, from the violence applied, serum had been poured out between the layers. The other day, in company with Professor Simpson, he had seen a young lady who had suffered much agony from an exostosis on the inner surface of the neck of the humerus, pressing upon the axillary plexus. From its situation, it had been deemed incapable of removal; but, on careful examination, Mr. Syme found that its origin could be traced by a narrow neck to the outer and back part of the arm, and, by an incision between the deltoid and the triceps, he was

enabled to divide the neck by means of cutting-pliers, and successfully to remove the tumor.

Obliteration of the Innominata by Ligature, by M. Peixoto, of Rio Janeiro. In the *Gazette des Hôpitaux*, March 9th, 1854, p. 115, we find among the reports made to the Royal Academy of Medicine, at its session of March 7th, that of a supposed obliteration of the innominata, by a ligature of reserve! The case was laid before the Academy by M. Velpeau, and is briefly as follows: M. Peixoto, of Rio Janeiro, November 14th, 1851, tied the right primitive carotid at its middle portion, for an erectile tumor of the ear. "Hémorrhagie foudroyante avant la chute de la ligature d'attente à la naissance de l'artère sur le tronc brachio-céphalique; formation du caillot dans le tronc même, après douze jours de compression par la ligature d'attente, qui n'a ni ulcéré, ni enflammé l'artère au point de la coupe." In two months, it is added, the patient was perfectly well. It seems remarkable that the constriction of the ligature, not sufficient to inflame or ulcerate the artery, should so obstruct the current of the circulation, through the trunk of the innominata, as to produce its obliteration, and we do not wonder that M. Malgaigne should have expressed some doubts as to the value of this case, doubts in which M. Velpeau confessed he himself participated.

Excision of the Wrist-joint.—Several instances of this operation have recently been reported in the London journals, but the results have not been very favorable. Mr. Erichsen, on the 19th of October, 1853, removed the first row of carpal bones, with an inch of the lower end of the radius, and a little more than the styloid process of the ulna, by making a transverse incision on the dorsal aspect of the wrist-joint, and two incisions at right angles to this. These bones were in a carious condition. The case went on favorably for over a month the suppuration being free and the health of the patient improving, when she passed from under observation.

Mr. Fergusson operated, August 16th, 1853, upon a suppurating wrist-joint, making longitudinal incisions on the radial and ulnar sides, and a transverse incision, about one inch above the joint, and removed all the carpal bones except the trapezium, with the bases of three metacarpal bones and the styloid process of the ulna. No vessels required ligatures, nor were the extensor tendons injured. At the end of nine months the parts were still discharging freely, with little prospect of healthy cicatrization.

Mr. Fergusson operated on a carious wrist-joint, May 21st, 1853, removing most of the carpal bones, and a small portion of the extremity of the radius, through the openings already existing. Cicatrization did not follow, and, several months after, more carious bone was removed. Eight months subsequently to the first operation, the suppuration continued free.

Mr. Simon performed this operation, Oct. 9th, 1852, upon a young

man who had suffered for several months from caries of the metacarpal and carpal bones. All the carpal bones except the pisciform and trapezium were removed, and a portion of one of the metacarpal bones. The incisions in this case were made longitudinally on the anterior and posterior aspect of the wrist-joint, *between* the tendons running down to their destination. The wound made in front was brought together by sutures, but that on the dorsum was left open. The patient improved in general health, suppuration continued free, but at the end of a year, when the final cicatrization was confidently anticipated, the patient was seized with symptoms of fever, of which he died.

Amputation at the Ankle-joint without the Removal of the Astragalus.—Mr. Simon modifies the operation of Mr. Syme by not excising the astragalus in his amputation at the ankle-joint. He considers the stump thus obtained preferable to that of Chopart, because of its being undisturbed by muscular contraction, and better than Syme's, because of its great breadth, its mobility in the joint, and the saved inch and a half thereby. A stump thus made was seen after several years, and was found to have worked very advantageously for the patient.

Amputation at the Hip-Joint.—An unsuccessful case of amputation at the hip-joint, is recorded by Mr. Mackenzie. The following is the history of the case and operation:—(*Edin. Med. and Surg. Jour.*—James O'Hara, aged 18, was admitted into the hospital, under my care, January 3, 1853, with fracture of the right thigh-bone a little below its middle. He had suffered for more than seven years from necrosis of the bone, large portions of which had exfoliated from time to time, and he had left the hospital only a month previously with sinuses on each side of the thigh still discharging matter. Whilst limping along the street on New Year's Day, he was pushed over by a drunken man, and the thigh was fractured by the fall. When brought to the hospital the limb was much distorted, the upper fragment nearly projecting through the skin anteriorly, and the lad was suffering so intensely that he entreated the limb might be amputated immediately. The fracture was adjusted, but the extension required for this only increased his suffering, and on the following day it was necessary to remove the splint, and the limb was kept in the easiest position between pillows.

On the 5th, at the urgent request of the patient, who was much exhausted by his continued suffering. I had him removed to the operating theatre, where I promised to amputate the limb, or remove any dead portions of bone, as seemed best on examination, when he was under the influence of chloroform. On introducing my finger into an opening on each side of the thigh, I found the whole shaft of the femur at the seat of fracture in the state of necrosis, and the very scanty substitute of new bone on one side of it fractured, and detached from the soft parts to the extent of three or four inches. Those of my colleagues who were present at once agreed with me as to the propriety of amputation, the extensive detachment from the

soft parts of the thin shaft of new bones rendering the prospect of union hopeless. It was a more difficult matter, however, to decide at what point amputation was to be performed. The entire upper part of the thigh-bone was much thickened; and on introducing the finger into a large sinus, which existed on the back of the thigh, near the tuberosity of the ischium, the bone was felt rough and bare in the neighhourhood of the lesser trochanter, and the probe here entered a cavity in the bone. Under these circumstances, it appeared doubtful whether division of the bone through the highest part of its shaft would suffice for the removal of the entire disease; and as the weak state of the boy rendered the speedy completion of the incisions very desirable, so as to avoid unnecessary loss of blood, it was deemed prudent not to make any exploratory division of the bone through the trochanter, but at once to disarticulate. The operation was performed, nearly in the way recommended by M. Malgaigne, by transfixion, and the formation of a long anterior flap; but a short posterior flap was also made, by carrying the knife a little obliqueiy outwards after disarticulating the head of the bone. The limb was thus severed in less than ten seconds, and the hæmorrhage was so effectually controlled by my colleagues, Dr. Dunsmure and Mr. Spence, that scarcely a teacupful of blood was lost.

On the Treatment of Hæmorrhoidal Tumors.—In the discussion which followed the reading of a paper by Mr. Lee before the Medical Society of London (*London Lancet*), on the use of nitric acid in the treatment of these tumors, as recommended by Dr. Houston, of Dublin, Mr. Coulson remarked that he "considered nitric acid to be a remedial agent of very limited efficacy as compared with the ligature. This would be evident from a consideration of the nature of hæmorrhoidal tumors, their situation, and the complications with which they are sometimes attended. These tumors may be divided into two great classes, one kind being not unlike a hot-house grape approaching to ripeness, of a whitish-bluish color, with its mucous covering, smooth, entire, and thickened. These tumors are varices, with the coats of the veins, and the surrounding cellular tissue in a more dense condition than normal. Two or three, or even more, of these swellings are usually present in the same person, and generally produced after an evacuation. Now, to this class of tumors the author of the paper had himself admitted that the nitric acid is not applicable. The surface could not be easily permeated by the acid, and if it could, its extent would be too large to be acted upon by this agent. The next class is of a more vascular kind, resembling a raspberry or mulberry, bleeding on the least touch, and analogous in structure to the erectile tumors in other parts of the body. Two or more of these tumors usually exist at the same time, and their base is large. These also descend at stool, and often bleed considerably. It is to this class that Mr. Lee restricts the application of the acid, but he thought that it could only be of use when these tumors are small and within reach. The situation of these swellings would often render it very difficult to use the acid; they are not always situated close to the anus, but sometimes above the fibres

of the inner sphincter, so that the surgeon experiences great difficulty, even with a tenaculum, in keeping them within his reach. To this it may be replied that the obstacle may be overcome by the speculum, and the acid applied high up by means of it. But he thought it very difficult to apply the acid with accuracy in this situation. Then, these tumors are sometimes complicated with fistula in ano, and fissure of the rectum. Only a few weeks ago he had operated on a patient of Dr. Jones's of Dalston, for a fistula of long extent, by the side of which there was a large vascular tumor. Now, in such a case nitric acid could scarcely be employed, one application would not have been sufficient, and the cauterized surface would be sure to come in contact with the edges of the wound. The ligature was effectually applied at the time of the operation for the fistula, and under similar circumstances he should always employ it. The hæmorrhoidal tumors are also sometimes complicated with fissure of the rectum. Now, the application of nitric acid, from time to time, to the tumors would be very likely to irritate the divided surface, and give great pain. Very recently he had operated on a patient of Mr. Bowling of Hammersmith, for fissure of the rectum, in whom there were two vascular excrescences, and in all cases of this kind he is confident the nitric acid would be inapplicable. He came therefore to the conclusion that this agent is of use only in cases of the vascular sort, when the tumors are small, easily reached, and not complicated with fistula or fissure. Why, then, not adopt the ligature, which can be easily applied to all cases, however numerous the excrescences, and aggravated in their nature. It is also effectual in its results, and perfectly safe. He had operated in a large number of cases, and had never met with an unfavorable result—in fact, he had seen, in the practice of others, only one fatal case after the ligature, and death arose in that instance from extravasation of urine. Retention of urine, as is well-known, occurs in the majority of cases after the operation by ligature. In this case the condition of the bladder had been overlooked, and extravasation of urine was the result. The operation by ligature is painful, but the pain soon subsides; it also entails confinement for ten days or a fortnight; but this surely is not too great a sacrifice to make for getting rid of a painful malady. For the ligature, however, to be a safe and effectual remedy, it must be properly applied. Each tumor should be transfixed at its base with the tenaculum, and tied as firmly as possible, outside the instrument, with twisted thread. Before the knot is finally tightened, the tumor should be punctured with a lancet, so that the ligature shall not be subsequently loosened by any exudation from the vessels. If the base of the tumor be too large to be effectually strangulated by one ligature, it should be transfixed by a tenaculum, having an eye at its end, and armed with a double thread, so that one-half may be tied with one thread, and the other portion with the other. Afterwards the strangulated tumor should be returned within the rectum, and the thread secured by adhesive plaster to the nates. The ligatures usually come away within a week, but this is uncertain. In these cases the integument round the verge of the anus is usually loose and hypertrophied, and many surgeons remove it with a knife or scissors at the time of

operating on the hæmorrhoidal tumors. He considered that this state of the external integument depended on the condition of the rectum, for he found it disappeared after the internal tumors were cured. He therefore did not think it necessary to meddle with the external integument in the operation, and he especially guarded against involving any of the skin within the ligature. It added much to the discomfort of the patient, and delayed his recovery.

DISEASES OF FEMALES.

On Some Diseases of the Rectum in Women, Resulting from Certain Conditions of the Uterus. Mr. Brown read a paper on this subject before the Medical Society of London. The following is from an abstract published in the *Lancet*:—Enlargement of the uterus from any cause,—whether from the most common and natural one, pregnancy, or from retroversion, hypertrophy, inflammation, distension, or imperfect contraction after labor, fibrous or scirrhous tumor, polypus, hydatids, or from any other disease—alike tends to produce the same result in the bowel; and when the subject is fairly considered, it will become self-evident that the uterine and intestinal affections are in these cases related to each other, as cause and effect; and that, bearing this in mind, we may in many cases the more surely and quickly apply our remedies, and look with confidence for a favorable issue; whereas if the uterine origin of the disease is not suspected, we may treat a woman affected secondarily with constipation, piles, intestinal irritation of a dysenteric character, or other allied disorders by therapeutical agents, directed to the bowel as the primary seat of the disease, and yet the patient shall derive no benefit from any of them. Few surgeons, indeed, can fail to recollect instances in which this kind of treatment has disappointed them, and I hope to be able to show the reason why it has failed. These affections of the rectum may arise, as I am certain they often do, from an enlarged uterus, and that in two ways: firstly, by dragging on the lateral ligaments and elongating them, it falls down under the promontory of the sacrum, and presses on the bowel, interfering with its muscular action, irritating its lining mucous coat, and deranging the circulation in its blood-vessels; and secondly, any hyperæmic disturbance in the uterine circulation increases the force of the circulation in the hæmorrhoidal vessels by establishing a determination of blood to them. Thus by reflecting on the anatomy of the parts, it will be easily understood why and how diseases of the rectum, such as hæmorrhoides, prolapsus, fissure, stricture, fistula, as well as disordered functions of the bowel, as constipation, dysenteric irritation, &c., do sometimes result directly either from the mechanical pressure of an enlarged uterus, or simply from the derangement of the hæmorrhoidal circulation resulting from uterine disease. It is obvious that in the treatment of these various affections so arising, unless the attention of the practitioner is directed to the uterine origin of the disease, no permanent benefit can possibly result. Therefore, when any of these affections occur in females, it is necessary to inquire into the condition of the uterus, which will often

at once explain the cause, and indicate the treatment. Mr. Brown then proceeded to demonstrate these remarks by cases. He observed that the hæmorrhoidal veins suffer more from pressure than the arteries, because the coats of a vein are thin, and capable of great distension, and not resilient; whereas the artery is smaller, firm, elastic, but very resilient, and the *vis à tergo* being greater, the circulation of the blood is less liable to interruption. Therefore, as might be expected, the mischief is greater in the veins than in the arteries. Hence we find that the blood often coagulates in the veins, and forms a semi-solid tumor, and the cellular tissue around becomes thickened, and the mucous membrane covering them becomes excessively vascular and sensitive. Mr. Brown observed that he alluded here entirely to internal hæmorrhoids. He then related six cases; 1, hæmorrhoids; 2, prolapsus ani; 3, ditto; 4, fissure of the rectum; 5, constipation; 6, fistula in ano; and in all these cases the disease had been found to have a uterine origin. The uterus was treated first, and the result was in every instance successful.

Nature of Puerperal Tetanus.—In his contributions to Obstetric Pathology, and Practice, (*Monthly Journal,*) Prof. Simpson has the following on the Nature of Puerperal Tetanus:—It will be granted, I believe, by all pathologists that the existence of an injury or wound upon the external parts of the body is by far the most common cause of tetanus. After abortion and parturition we have the existence, upon the interior of the uterus, of a similar state of lesion. All authorities seem now generally agreed as to the facts (1) that the human decidua is, as was maintained in the last century by Krummacher, the thickened and hypertrophied mucous membrane of the uterus, (2) that the epithelial or superficial layer of it separates from its basement or outer layer in abortion and after delivery—and (3) that this separation or solution of continuity of tissue, as well as the rupture of the organic attachments of the placenta from the uterus, leaves the interior of this organ so far in the condition of an external wound, or with a new or raw surface for the time being exposed. Obstetrical tetanus has, in this respect, an exciting cause essentially similar to surgical tetanus. And perhaps the great reason why this state of lesion of the interior of the uterus does not more frequently give rise to tetanus is simply this, that the uterus is itself principally, or indeed almost entirely, supplied by nerves from the sympathetic system, while apparently, as stated by Mr. Curling and other pathologists, tetanus is an affection far more easily excited by lesions of parts supplied by nerves from the cerebro-spinal system, than by lesions of parts supplied by nerves from the sympathetic system.

The following are his views of its treatment:—Let me merely remark that, in obstetrical tetanus, no kind of local treatment to the seat of the original uterine lesion could be well applied, or would probably be of any avail, if applied. And, as to *constitutional* means, perhaps the most important are—

1st, The greatest possible quietude and isolation of the patient

from all irritation, corporeal or mental, during the course, and for some time even after the resolution of the disease.

2d, The special avoidance of painful and generally impracticable attempts at opening the mouth in order to swallow; but sustaining the strength of the patient, and allaying thirst by enemata, or by fluids applied to the general surface of the body.

3d, If there is any well-grounded hope of irritating matter lodged in the bowels, acting as an exciting or aggravating cause, to sweep out the intestinal canal at the commencement of the disease with an appropriate enema.

4th, To relax the tonic spasms of the affected muscles, and diminish the exalted reflex excitability of the spinal system by sedatives, or anti-spasmodics; with the prospect of either directly subduing this morbid reflex excitability; or of warding off the immediate dangers of the disease, and allowing the case to pass on, from an acute and dangerous attack, to a sub-acute, and far more hopeful and tractable form of the malady.

Anteflexion as a Normal Condition of the Uterus before Pregnancy. By Boulard, (*Monthly Jour.*)—From observations, embracing 107 dissections, the author concludes that anteflexion is, with rare exceptions, the normal condition of the uterus in the fœtus, the young girl, and woman previous to pregnancy. The body of the uterus is bent forwards on the neck, so as to give the organ the shape of a retort, with the broad end directed upwards and forwards. The axis of the body of the uterus is nearly horizontal, while that of the neck corresponds with the axis of the superior aperture of the pelvis; the fundus is in relation with the posterior wall of the bladder, the anterior surface is directed downwards, and the posterior surface looks upwards: the anterior surface is bent forwards upon itself, the angle of flexion being at the junction of the body and the neck. This flexion cannot be considered a cadaveric change, because, if artificially straitened, the uterus returns to the bent position. In ten examinations in the living subject, the author has found the same condition. By the occurrence of pregnancy the anteflexion is removed, and, if observed after this period, it depends on some pathological condition, as abnormal adhesions, etc.—*Gaz. Med.*

Treatment of Prolapsus of the Pelvic Viscera, and Lacerated Perineum. By Mr. Hilton.—I certainly think the cases of lacerated perineum are worth publishing, and I have great pleasure in sending to you a statement of the reasons which induced me to adopt the operation performed in each of the cases. As far as I know, such an operation had not been done before that period, 1848, with the purpose of relieving the distress and annoyance to which these patients were exposed; but in this opinion regarding the originality of the operation I may be wrong, if so, your better information will set me right.

When you requested my assistance to determine what had best be done in a surgical direction, remembering that the levatores ani have

one firm and fixed attachment to bone near the arch of the pubes, and another at the coccyx, and that the internal sphincter ani might be regarded anatomically nearly in the same light in relation to its effects upon the injury to the perineum, and bearing in mind that all muscles contract towards their more fixed point, no matter how that fixity of position may have been acquired, it occurred to me, if I could, by a simple and uncomplicated operation, disengage the coccygeal attachments of the levatores ani, I might allow them to retract the anal aperture and adjacent structures in a direction towards the pubes, as it were, to bury perineal injury deeply in the pelvis, thus enabling the lower fibres of those muscles (which blend with the muscular parietes of the vagina, and perineum) to assume the office of a sphincter to the lacerated opening, by approximating the edges of it, and drawing it upwards towards the pubic arch. In reference to the external sphincter ani, I concluded that, by taking away or separating the coccygeal fixed point of that muscle, I should necessarily change the direction of its contractile power from the coccyx towards the vagina, and thence to the pubes; this I hoped would help to occlude the lacerated opening between the vagina and rectum. Whether I had reasoned rightly or not, the results were as satisfactory, and indeed more so, than I had anticipated. It seemed to myself, that two ulterior purposes might be held in view by such an operation; the first was to ascertain how much of complete relief could be afforded by an operation which promised to be altogether free from both the danger and the severity of the ordinary operation for such cases, and secondly, should no important immediate benefit be derived, it would certainly tend to the advantage of the patient, by putting the parts into a better state (by relaxing them, and so taking off tension) for the easy and perfect accomplishment of the usual but more formidable operation of paring the edges of the lacerated wound, and maintaining them in contact for a time by sutures.

The method of proceeding was as follows:—A narrow sharp-pointed knife was introduced through the skin on one side of the point or free extremity of the coccyx, about half or three-quarters of an inch from its end; it was then passed into the pelvis, between the concave surface of the coccyx and the rectum, special care being taken not to puncture the intestine; the cutting edge of the knife was now made to sweep over the sides and ends of the coccyx, so as to separate from it the coccygeal attachments of both the sphincter and levatores ani; the knife was then withdrawn through the same small opening by which it had been introduced; scarcely any blood escaped from the wound, but a compress of lint supported by adhesive plaster was applied over it to keeps the parts quiet, and to intercept the flow of blood.

That the operation had accomplished its intention of detaching the muscles from the coccyx, was obvious enough, by examining with the finger upon the skin, the median line between the end of the coccyx and the posterior margin of the anus; the resistance which the muscles naturally give to pressure in that position had disappeared, and the anal aperture became retracted or drawn up into the pelvis.—*Guy's Hospital Reports.*

PART FOURTH.

AMERICAN MEDICAL RETROSPECT.

Remarks on Ergodeleteria. By Prof. SLACK, of the Cincinnati College of Medicine and Surgery. (*Western Lancet.*)—In Wood & Bache's Dispensatory, of 1845, page 311, it is remarked "in all the *Graminaceæ*, or grass tribes," "the place of the seeds is sometimes occupied by a *morbid growth*, which, from its resemblance to the spur of the cock, has received the name of *Ergot*." The celebrated James T. W. Johnston, F.R.S., Professor of Agricultural Chemistry in the University of Durham, England, invited by the State Agricultural Society of New York, delivered at Albany, the capital, a course of very able agricultural lectures in 1850. His remarks on this subject will be found in his published lectures, by Saxton, of New York city, page 72. He fully endorses the permanent poisoning character of the *Secale cornutum*, and the distressing results of the use of infected bread to the poor classes of Europe, in serious and long-continued disease. He adds (in his own words), "it is a curious fact that this same *ergot* is found, not only in rye, but *in various kinds of common grasses*, on which cattle feed, particularly among the rank grasses that grow in marshy places. It was immediately inferred that this kind of *fungus* thus produced in these grasses on which cattle feed, and which, in rye, produced the remarkable feverish effects on the human body, was the cause of similar effects in cattle, which, in many districts" of Great Britain, "prevails to such an extent that the farmers find it impossible to secure calves." Many other proofs, if necessary, might be adduced. My experience coincides entirely with the latter gentleman's positions. 1. That the poisoning in cattle, which affects their milk, butter, beef, and calves, results from an *ergot* or *fungus* production in *grass seeds*, which the cattle, at certain seasons, eat in grazing. 2. That this poisonous principle, affecting the cattle through their products, forms, in our communities, what is designated as the cause of *milk sickness*, formerly so common all around us. 3. That the ergot in rye results from much wet just before seed or grain setting, followed by great heat or high temperature. The spurred rye is found more especially in low or wet grounds; if at all on up-lands, in very wet seasons. The same principles hold good in regard to all grazing or pasture grasses. The seeds are found diseased or ergotized chiefly in low, wet grounds, great heat having prevailed, in rank and vigorous grass.

Hence, milk sickness prevailed fearfully, some years since, up the Licking river and in adjacent lands, opposite Cincinnati, near Brookville, and in perhaps one hundred other places, where it is now unknown. Why now unknown? The cause has been removed by clearing and cultivating the land, and draining the swamps. The remedy, then, is easy. Whenever drainage and cultivation are vigorously pushed, the disease is no longer found; because the strong pasture grass having air and sunlight, the *nidus* of the fungus seeds is not furnished, and the fungus, which is a poison *parasite*, will not grow and ergotize the seed of the grass.

Early in November of 1839 and '40, by request, I visited a very respectable family. I found them all laid down with *milk sickness.* The house was a hospital—all were sick. The lady was retching and vomiting in a manner unusual to me. She died during the night after. What was the condition of the lands around? The family lived in a fertile place, 1½ miles from Memphis, Tenn., on the east bank of the Wolf River. The whole space, except a small strip of land, was frequently overflowed by water. In this particular case I looked round carefully for a cause of the very distressing malady, and was satisfied it resulted from something produced in the vigorous grasses of those *low lands*, since which time botanical facts confirmed my impressions, and led to the sentiments above.

It has been noticed, that at harvest onward to the middle of winter, the disease is found in its worst form. It may have occurred in the spring, but of that I have no information. If so, it must have resulted either from some of the infected seed still remaining, or from the cattle, previously poisoned continuing diseased, grazing in the low swamp pastures.

The chemical character of ergot of rye and of grasses, I have not space to furnish. Indeed, no very reliable analysis of its poisoning parts and simple elements has been given. The smut in maize, Indian corn, is produced by a *parasitic fungus* of poisonous character. I have known many cattle, in the fall season, to die from eating the smutted corn ears left by the huskers when gathering the corn. The ergot of rye and other grasses, as shown, is produced by a *parasitic fungus* of the same genus as the smut in Indian corn. The ergot is possessed of a concentrated poison, or that which is quite active in its operation. In the deleterious principle of both Indian corn smut, or ergot of rye and other grasses, there is, no doubt, a small proportion of nitrogen. This is found to be the fact in regard to *all poisonous vegetables.* Let the nitrogen be in large quantity, and the *vegetable article* is, in general, nutritious as tea, coffee, chocolate; but in tobacco the nitrogen is small in quantity, and the poisonous character is frightful! It ranks, notwithstanding the unnatural use made of it, as a near *relative*,* in poisonous character, to prussic acid, the most terrific

* "Near relative." What the essence of tobacco is has not been decided, so that the expression "near relative" is in point. The prussic poison is an acid of peculiar character, not sour, but by combination with bases forming salts is its constitution decided. Nicotine C10 H8 N by Turner, not very certainly decided, is an alkali, yet our positions above are by no means disproved.

In regard to the treatment of ergodeleteria I have said nothing; that is obvious to the experienced practitioner; it is to be removed from the system.

poison in the catalogue, to which arsenic is almost nothing in comparison. The *essence of tobacco* and prussic acid are both *vegetable products.* Let tobacco users beware; the affirmation here is no *tale*, but a solemn and impressive *truth.*

In conclusion, I propose to call the poisoning principle of ergot of rye and other grasses, *Ergodeleteria*, from ergot (French), a spur or cock-spur, and Dēlētērion (Greek), poison. *Translation:* The poisonous principle of ergot of rye and other grasses.

Remarks upon an Analysis of twenty-one Cases of Articular Rheumatism. By Austin Flint, M.D., Prof. of Practice of Medicine, in the University of Louisville.—The results developed by the analysis of the few cases contained in this collection are of importance only as a small contribution toward the accumulation of facts by which, it is to be hoped, the merits, real and relative, of the several remedies that have been noticed may be determined. As the true point of departure for studying the effects of any or all remedies, our science lacks here, as with reference to most other diseases, knowledge of the average duration, etc., of a series of cases in which the disease was allowed to pursue its course undisturbed by medicinal interference. This knowledge cannot be voluntarily and deliberately acquired. Facts bearing thereon can only be obtained slowly, as chance supplies them.

And, at the present moment, we cannot answer the question, What are the intrinsic tendencies of articular rheumatism as respects its continuance, its complications, and remote consequences in the organism? Were we able to answer this question by an appeal to facts, we should then have a criterion by which to estimate the favorable or unfavorable influences of different measures of treatment pursued in a series of cases. As it is, in bringing statistical information to bear on the therapeutics of the disease, we can only study the immediate apparent effects of different remedies, and institute comparisons, in this point of view, and also with reference to the duration of the disease, etc., in different series of cases treated by different methods.

So far as the few observations go which have been presented in this paper, they lead to a distrust of the efficacy of the several remedies employed, rather than tend to increase confidence in our ability to control, by means of them, the progress of the disease. Some of the remedies appear to possess more or less palliative power. This is true of colchicum, bleeding, and opium; but as respects the duration of the disease, it was in some cases short, and in other cases protracted, under different remedies. This being so, it is, perhaps, more philosophical to attribute these differences to variations in the tendencies of the disease, in different cases, rather than to the agency of the remedies used.

It is to be observed that under the use of several remedies supposed to possess more or less remedial efficacy in this disease, the complication most to be apprehended, viz., heart affection, became developed. This was true of colchicum, the nitrate of potash, calomel, and opium. —*Buffalo Med. Jour.*

Observations on the Use of Tinct. Feri. Mur. in Scarlatina. By H. L. Byrd, M.D., Prof. of Materia Medica and Therapeutics, in Savannah Med. College.—During the present year, both erysipelas and scarlatina have prevailed to some extent in this city, and the latter disease has been attended with considerable mortality among young children. After having used the tincture chloride of iron, in erysipelas, with considerable success, as recommended by Dr. Bell (page 126 of your Journal for last year), and remembering the general sequela of scarlatina—often after the most favorable convalescence—I determined to give it a trial in the latter disease. My first impressions, as to its usefulness, were strengthened by the recollection, that chlorine had been recommended in scarlatina, and a knowledge of the value of mur. tinct. ferri, in the anasarcous swelling, which so often results after an attack of that disease. My most sanguine hopes have been more than realized, experimentally, in more than twenty cases. So much am I convinced of its value, that I would not willingly exchange it for all the other remedies which I have heretofore used, or seen recommended, in scarlet fever. I am not aware of the article having been noticed before. Should such have been the case, however, I feel it due to the profession, and to suffering humanity, that the fact should be as widely disseminated as practicable. I will leave others to determine its *modus operandi*, and proceed at once to the narration of some of the most prominent cases, and the peculiar circumstances connected with them. The first case in which I used the mur. tinct. iron, occurred on the 10th July, 1853. The patient, a bright mulatto boy, act. eight years, exhibited the eruption very distinctly, over the entire surface of the body and extremities; the throat was very much injected, and the ulceration of the tonsils had already taken place. I ordered the bowels to be opened with salts, senna and manna, and the tincture of iron given afterwards, in eight-drop doses, diluted with gum-water, every four hours. Gargle: 1 drachm of the tincture to 4 ℥ water, every three or four hours. This case went on well, and in two or three days the patient was up about the chamber. The second case was the son of H. C., Esq., aged two years. This child is rather delicate, with fair hair and full blue eyes. On my first visit (20th July), I found the skin covered with the eruption peculiar to scarlatina. The entire surface seemed to be involved in the eruption; the tonsils very red and injected; the parotids enlarged and painful to the touch, the left particularly so; the pulse 150, compressible; tongue furred, except at the edges, which were red; considerable thirst; no action on the bowels since the previous day. I directed a dose composed of ol. ricin. ℥iii. sup. carb. soda, grs. ii. tinct. opii. camph, gutt. iv. camphor liniment to be rubbed over the enlarged glands of the neck, and a flannel saturated with the same, applied afterwards; throat penciled three times a day, with a solution of 6 grs. of argent nitrat. to one ounce of rose-water. After the action of the oil mixture, the following was directed to be given in papspoonful doses, every two hours, until visited again, viz.: ℞. Salt tart. ℈ 1, mucil. G. acac, ℥ iv. tart. ant. et Pot. gr. ¼, tinct. op. camph. ℈ i, M: iced gum-water allowed as a common drink On my visit in the afternoon, I learned that the bowels had been acted

upon once or twice, and the pulse was reduced by the last mixture to 140, and the skin was soft, though not actually moist.

The child being delicate, and of somewhat strumous habit, and having been pleased with the success of the iron in the preceding case, and believing the indications even stronger in this one, I resolved to venture on its use at once. I directed mur. tinct. ferri. 50 drops, mucil. g. arabic, ʒ ii, M. a teaspoonful to be given every four hours. Suspend previous mixture and continue iced gum-water.

On my visit the following morning, I found the skin less red; pulse 130; no action of the bowels since yesterday; urine somewhat increased in quantity; tongue clean and red; throat the same; glands the same. Continue treatment to throat and neck; also, the iron as before. Evening visit—found the patient in much the same condition as at last visit: pulse 128. The next morning the skin less red; appetite increased; tongue clean and red; some thirst, which, however, is rapidly allayed by the iced gum-water; neck and throat the same. Ordered the castor oil-mixture mentioned above; directed the iron treatment to be resumed after its action. Did not call again until the following morning, at which visit I found the bowels had acted well the previous day; condition generally improved; pulse 118. The iron was continued, and the lunar caustic twice per day to the throat. The next morning the skin was much paler, the throat much improved, the pulse 110. The bowels being bound, a dose of castor-oil was prescribed, and, after its action, the iron to be resumed. The following morning, I found all the symptoms so much improved, that I did not deem it necessary to continue my visits.

The epidermis had commenced to desquamate, and the throat appeared well, beyond a slight redness, which remained for a few days, as I subsequently learned. The patient continued improving for near two weeks, when he was taken with slight fever, after one or two rides during the afternoon. During this attack, the glands of the neck, which had not entirely subsided from the first illness, became swollen and very painful, and, despite of every effort, suppuration took place on the left side. I opened the abscess, kept it poulticed with flax-seed, and put my patient on the syrup of the iodide of iron in six-drop doses, four times per day, with one-half a grain sulphate quinine, three times per day, and in a few days he was well. I have been thus minute in the details of this case, as it was the only one out of twenty in which suppuration occurred; and, further to convey a correct general idea of the course usually pursued. In no case did anasarca supervene, and the cases were usually cured in from seven to ten days. It is proper that I should remark, that occasionally other remedies, as blue pill, rhubarb, etc., were found to be necessary; and in all cases, with one or two exceptions, I made an effort to lessen the frequency of the pulse, and to determine to the surface before commencing with the iron. Minute doses of tart. ant. or ipecac., in combination with other diaphoretics, were used for this purpose; and in all cases in which the tongue grew dry under the use of the iron, it was suspended until that difficulty was removed. I found but few cases, however, in which the dryness of the tongue was traceable to the iron. I used

demulcents and cool drinks, as asked for, throughout the disease. In one case treated recently, the infant child of the Hon. E. J. H., I used no other remedy than the mur. tinct. of iron. It was given in doses of from ½ to ¾ of a drop suspended in gum arabic water, three times per day. Notwithstanding the throat was considerably inflamed, and the glands enlarged, this patient convalesced rapidly, and was well in four or five days. The child was an infant at the breast, six or seven weeks old. Two other cases had previously occurred in the same family, in one of which I scarified the tonsils, and blistered the throat, finding both these expedients necessary to relieve the unusual inflammation and tumefaction of the tonsils which existed. It yielded readily to the iron, after the reduction of the high arterial excitement that ushered in the attack. In this case, complete desquamation of the epidermis occurred. The last case worthy of notice is that of Ella, aged eight years, the eldest child of Dr. R. A., now under treatment (Dec. 2d). I saw her first five days ago. The eruption was very distinct, and the throat unusually ulcerated; the tongue was coated with a brown fur, except the edges, which were red; the bowels constipated; pulse 145. I prescribed three grains each, of mass. hydrarg., pulv. rhei., and creta preparat., to be followed by castor-oil in four hours. After the action of the oil on the bowels, the pulse remaining the same, and the skin dry, I used a mixture composed of sal. tartar, ℥ss, mucil. g. acac. ℥ vi., tart. ant. et pot. gr. ¼, and paregoric ℥ss, in papspoonful doses, every two hours, for ten or twelve hours; after which the mur. tinct. iron was begun with and continued in doses of ten drops, three times per day, until this morning, when it was deemed no longer necessary. This case is alluded to, simply on account of the obstinate character of the ulceration and inflammation of the throat. I have used the mixture of silver in different proportions to the ounce of water, without much benefit until yesterday, when a solution of twenty grains to the ounce was used. Gargles of tannin and pyroligneous acid, were also resorted to as auxiliaries during the intervals that the caustic was suspended. A circumstance worthy of note was, that little or no swelling or enlargement of the glands of the neck occurred during the entire case. After the solution was used, as just stated, two or three times, without any perceptible improvement in the ulceration, I applied the solid nitrate of silver with complete success.—*Charleston Medical Journal.*

On the Influence of Chloride of Sodium on Absorption and Exhalation. By Henry Parker, M.D., of Ill.—From the experiments and inquiries into the influence of chloride of sodium upon the blood, we observed three important facts:

1st. An increase in the capacity of this fluid for the absorption of oxygen

2d. An increase in the amount of carbonic acid exhaled, and

3d. An augmented excretion of urea.

The effects observed upon these several processes are so marked that every intelligent and scientific physician must see the importance of their due consideration in the treatment of certain forms of diseased

action. With these facts before us, we infer, that the use of this substance is indicated in those diseases dependent upon or accompanied by a too small supply of the former, and an undue accumulation and retention in the system of the latter. Does experience confirm this view, and the results of its use in such cases establish the correctness of our deductions? If we call to mind the pathology of those diseases, in which its use has been attended with the most marked benefit, we observe the existence of one or all of these three conditions, viz.: A diminished supply of oxygen, with an abnormal accumulation and retention in the system of carbonic acid and urea.

Congestive pneumonia affords us a good illustration of this,—a want of efficient oxygenation of the blood, and the due elimination of carbonic acid and those morbid substances designed for excretion. This want, oftentimes, if not generally, constitutes the only real source of danger to the welfare of the patient. That other means and other remedies may be demanded to subdue the local trouble, to remove the cause, of which this is an effect, I admit; but the period of time required to effect this is often protracted,—the patient sinking from a want of efficient oxygenation of the blood. This fact indicates the use of such remedy, combined with those adapted to the removal of the cause, as will most effectually promote the due interchange of these elements, viz., oxygen and carbonic acid. Reasoning, then, from the known effect of chloride of sodium upon the blood, in promoting the absorption of oxygen and elimination of carbonic acid, we infer that in this substance do we find such a remedy. And the fact, also, that the greatest apparent good results from its use, when such pathological conditions exist, it seems to me, furnishes strong evidence that its *modus operandi*, or rather, *morbus curandi*, is through its influences upon absorption and exhalation.—*N. W. Med. and Surg. Jour.*

Case of Trephining for Epilepsy. By W. Stone, M.D., Prof. of Surgery in Medical Department of University of La.—The use of the trephine as a remedial agent in epileptic convulsions, cannot be recommended with much reason or propriety; yet there occasionally occur cases where, from disease of the bones of the skull, internal ostitis or thickening of the membrane, the pain and suffering are more or less localized, and lead to the supposition that such may be the cause of the convulsive attacks mentioned in the following case:

In 1841, I was requested to see, in consultation with Dr. Davezac, Mr. F——. I found him laboring under epilepsy, which had assumed the periodic form, returning every four weeks, from the effects of which he scarcely recovered before the time of another attack. I recollected to have seen the patient before, some time in 1839, when he was suffering from tertiary syphilis, iritis, and a soft node on the forehead, which was absorbed under treatment. Dr. Davezac had encouraged him with the hope of relief from an operation, but recognizing the patient, and believing there had been absorption instead of depression, I declined operating. The disease, however, defied treatment, and having in the mean time made a post-mortem examination of a case, which showed internal ostitis, evidently the cause of convulsions, I

was induced to apply the trephine; nothing was discovered, unless a thickening of the dura mater; the patient expressed himself relieved from certain indescribable sensations; he had a slight convulsion that evening, and no return for twelve years. A year ago he had a recurrence of his convulsions, the periods between each attack becoming shorter, until they recurred every week. Applying to me again for relief, and his condition having been so much improved by the former operation, I again applied the trephine, operating on the edge of the former opening; he has again been relieved, with no return of convulsions.—*N. O. Med. News.*

Concluding Remarks upon the Treatment of Miasmatic Fever. By G. S. Upshur, M.D., Surgeon U.S. Marine Hospital, Norfolk, Va.—In perusing the foregoing observations, which are taken indiscriminately from a large number of cases of miasmatic fever admitted into the hospital during the last summer, two things will strike the attention; the exhibition of quinine in large doses, regardless of the stage of the disease, and always with benefit, and the small quantity of the mercurial preparations prescribed. If the bowels were constipated, and the condition of the patient was such that he could afford to run the risk of another paroxysm, the treatment was usually commenced with a mercurial cathartic, of which there is none better than calomel and jalap, in Dr. Rush's old dose of "ten and ten." As a general rule, however, the so-called preparatory treatment, in uncomplicated miasmatic fever, is unnecessary, and usually entails a loss of time which frequently can ill be spared.

I am no advocate for the doctrine that *quinine is a sedative*, as that doctrine is promulgated and insisted upon by some quinine enthusiasts. As I have said elsewhere, it is, undoubtedly, a sedative, but not in the same sense that digitalis is a sedative. It may be given during the height of the febrile paroxysm, but not if the fever is the result of pneumonia or arachnitis; and he who would give quinine in these diseases to reduce the pulse, because he had seen it produce such an effect in remittent fever, would commit a great blunder. The truth is, quinine is a medicine *sui generis*, and its impression upon the system, like that of many other remedies, varies with the condition of the patient and the cause of his disease. Administered in large doses to a healthy person, it undoubtedly quickens the pulse, flushes the face, and brightens the eye, and so far it may be ranked as a stimulant. Furthermore, I believe, nay, I *know*, that in inflammatory affections of the brain and its membranes, quinine is decidedly excitant, and, given in large or small doses, will increase the head symptoms *invariably*. This knowledge of the effect produced by quinine upon the healthy and inflamed brain, has unfortunately led to a timid use, or almost entire abandonment, of the agent in all cases where the head is affected. And in this consists the error of those who refuse to give it in miasmatic fever, where there is even the slightest tendency to the brain. Inflammation of the brain is a very rare complication in this fever, while drowsiness, coma, and even convulsions, are frequently its accom-

paniments. There is a vast difference, however, between *these* symptoms and *inflammation;* and large doses of quinine will be found the best treatment for them.—*Virginia Med. and Surg. Jour.*

On Iodine Injections in Leucorrhœa. By THOMAS T. RUSSELL, M.D.—We have used it varying in strength from one to four grains of iodine with double the quantity of the iodide of potash to an ounce of water. It may be applied once or twice a day, or once every second or third day, as occasion may require. In some of the severer forms of this complaint, attended with considerable abrasion and ulceration, the diluted tincture may be used with great advantage.

Its curative powers are far greater than the nitrate of silver,—which, in our hands, often seemed to exasperate the complaint,—or any other remedy with which we are acquainted.

As an internal remedy in leucorrhœa, iodine has been recommended by Goden, Broglio, and other continental physicians; but, in our hands, notwithstanding the genito-urinary organs appear to be most susceptible to its action, it has proved of little or no value; our experience with it, in this respect, coinciding with that of Eberle, Barbour, and others of our own country.

Müller, Gimelle, and Jewell applied it in the form of ointment to the inner sides of the thighs with success, and are advocates for it.

We have never seen or heard of iodine being used as recommended in the foregoing, and do not know whether there is any originality in it; neither do we care; our object being simply to call the attention of the profession to it, with the hope that they may be so far influenced by our humble testimony in its favor as to be induced to give it a fair trial.—*Amer. Jour. Med. Sci.*

MISCELLANEA.

Iodine as an Antidote to Curare.—We find in the *Gazette des Hôpitaux*, for March 9th, the relation of several experiments by PROF. BRAINARD of Chicago, and DR. J. W. GREEN of this city, both temporarily resident in Paris, to prove the efficacy of iodine as an antidote to the poison known in this country as curare or woorara. The following are their conclusions:

1. The solution of iodine and iodide of potassium is, within certain limits, a perfect antidote against curare, and when mixed with the poison, also in solution, destroys its poisonous effects.

2. The solution of iodine, injected immediately after the solution of curare, neutralizes completely its effects, provided we apply a cupping-glass for the purpose of arresting the circulation until the iodine unites with the poison. It neither produces suppuration, nor loss of substance by gangrene.

3. The solution of iodine, applied to the surface of a deep wound of the muscles in which the curare has been introduced, prevents the effects of the poison.

4. The solution of iodine has precisely the same action upon the

curare, that it had previously been shown to have upon the poison of the rattlesnake.

5. The identity of effects of the curare and the poison of the rattlesnake, the similarity of odor, and the effect of iodine upon their action, give much weight to the opinion already advanced, that the active principle of curare and analogous preparations is nothing more than the poison of the rattlesnake preserved in a particular manner.

An Act to promote Medical Science.—Thanks to the good sense of our legislators, this bill has become a law. We have barely room to give the bill, which we do without comment.

"An Act to promote Medical Science. Passed April, 1854. The People of the State of New-York, represented in Senate and Assembly, do enact as follows:—It shall be lawful, in cities whose population exceeds thirty thousand inhabitants, to deliver to the professors and teachers in medical colleges and schools in this State, and for said professors and teachers to receive, the remains or body of any deceased person, for the purposes of medical and surgical study; provided that said remains shall not have been regularly interred, and shall not have been desired for interment by any relative or friend of said deceased person, within twenty-four hours after death; provided, also, that the remains of no person, who may be known to have relatives or friends, shall be so delivered or received, without the consent of said relatives or friends; and provided that the remains of no one detained for debt, or as a witness, or on suspicion of crime, or of any traveller, nor of any person who shall have expressed a desire in his or her last sickness that his or her body may be interred, shall be delivered or received as aforesaid, but shall be buried in the usual manner; and provided, also, that in case the remains of any persons so delivered or received shall be subsequently claimed by any surviving relative or friend, they shall be given up to said relative or friend for interment. And it shall be the duty of the said professors and teachers decently to bury in some public cemetery the remains of all bodies, after they shall have answered the purposes of study aforesaid; and for any neglect or violation of this provision of this act, the party so neglecting shall forfeit and pay a penalty of not less than twenty-five nor more than fifty dollars, to be sued for by the health officers of said cities or of other places for the benefit of their department.

"The remains or bodies of such persons as may be so received, by the professors and teachers as aforesaid, shall be used for the purposes of medical and surgical study alone, and in this State only; and whoever shall use such remains for any other purpose, or shall remove such remains beyond the limits of this State, or in any manner traffic in the same, shall be deemed guilty of a misdemeanor, and shall, on conviction, be imprisoned for a term not exceeding one year in a county jail.

"Every person who shall deliver up the remains of any deceased person, in violation of or contrary to any or all of the provisions contained in the first section of this act, and every person who shall re-

ceive said remains, knowing the same to have been delivered contrary to any of the provisions of said section, shall each and every of them be deemed guilty of a misdemeanor.

"All laws, so far as inconsistent with this act, are hereby repealed.

"This act shall take effect immediately."

OBITUARY.

Death of Prof. R. L. Howard. Dr. Howard died at his residence, in the city of Columbus, O., on the 16th of January last, in the 45th year of his age. The following are some of the particulars of his professional life, as we gather them from the *Ohio Medical and Surgical Journal*—the Journal of which he was editor at the time of his decease. Dr. Howard was born at Andovertown, Vt., in the year 1809. Nursed in the lap of poverty, his energies and faculties were cramped, and being destitute of the means of acquiring even a common education, he was necessitated to employ himself at hard labor with an *ax* and *maul* through the day, and then to take as much of the night as he could spare from sleep, for the purpose of improving his mind. He formed the resolution of studying medicine when quite young, and, even while a student, he was frequently compelled to suspend his studies and resort to drudgeries, in order to get the means to further his design. Possessed of an indomitable perseverance, he surmounted all difficulties, and at the age of 22, graduated at Berkshire Medical College, Mass. After this event, he settled in the practice of his profession, at Windham, Ohio, but soon after removed to Elysia, Ohio. During the first ten years of practice, his business was not sufficient to place him above want. In 1844, he removed to Columbus, O., where, in the capacity of a general practitioner, his success was rapid. In 1847, on the removal of Willoughby Medical School to Columbus, he was appointed to the chair of Surgery, and subsequently to the same chair in the Starling Medical College. After the death of Prof. Butterfield, he assumed the editorial management and proprietorship of the *Ohio Medical and Surgical Journal*, and, as before stated, was editor of the same at the time of his death. As an editor, he was always courteous and dignified, knowing but one object, and that, the honor and dignity of the profession; as a surgeon, he was among the first of his State, if not of the age. In him the profession have lost an earnest co-laborer, and the science of medicine a warm and devoted friend.

Death of J. S. Shuler, M.D. Dr. Shuler died in San Francisco, Cal., on the 27th of February last, aged 63 years. Dr. S. was a native of this State, (N.Y.,) and, for nearly twenty-five years, practised his profession in Lockport. He was a licentiate of the New-York State Medical Society of 1818, and some time after received, we understand, the degree of M.D. from the Ohio Medical College. During the period he resided in Niagara county he occupied a high position among his professional brethren. In 1843 he was elected president of the Niagara County Medical Society, and on several occasions occupied

offices of distinction in the gift of the society. In 1850 he emigrated to California, and soon after his arrival in San Francisco established a private hospital in Mason street, in which he exercised principally the duties of his profession to the time of his death. Through a long series of years (it is said by one who knew him well) he maintained the honor and dignity of his profession. Ardently attached to the profession of his choice, he was never more happy than when in the active exercise of its arduous duties. Benevolent in his disposition, his doors were closed to none who required his professional services, and at no time, from the opening of his hospital to his death, was he without patients who were receiving gratuitously the benefits of his professional skill. He died after an illness of only twelve hours, of apoplexy.

Death of Nelson Shook, M.D.—Dr. Shook died in this city (N. Y.) on the 27th day of March, in the 41st year of his age. He was a graduate, we believe, of the College of Physicians and Surgeons of this city of 1836. In the summer of 1836 he was Resident Physician of the New-York Hospital, and published in the *New-York Journal of Medicine and Surgery*, 1839, a report on the cases of fever admitted into that Institution under the care of Dr. F. U. Johnston.

Death of George Cheyne Shattuck, M.D.—Dr. Shattuck died in Boston on the 18th of March, in the 71st year of his age. He was a native of Templeton, Mass. He was a graduate of the University of Pennsylvania in 1807, where he presented an inaugural dissertation *on Hydrocephalus Internus.* Previous to graduation, he had obtained the Boylston prize medal for the best dissertation "*On the difference between mortification produced by an external cause, and that which arises from a constitutional defect; the diagnostiks and proper mode of treatment.*" This, and two other dissertations by the same author, were published in a volume at Boston in 1808. Dr. Shattuck was gifted above common men in the faculties of quick discernment and ready adaptation. His discrimination in disease was remarkably acute, and he brought to the aid of his patients the advantages of a quick eye, a large experience, a kind heart, and a prompt interposition of the appliances of the healing art. In his life the profession of medicine will find much to remember—of great and honorable purpose, of philanthropy, of scientific and comprehensive knowledge. His name will be transmitted to posterity as one of the noblest benefactors of medical science, for which the city of Boston is so eminently distinguished.

Death of Dr. Stephen Cummings.—Dr. Cummings died at Richmond Island, Me., on the 2d of March last, aged 82 years. He was a native of Andover, Mass.; studied medicine with Dr. Kittridge, and, after completing his studies, commenced practice in Waterford, Me., in 1794. In 1801 he removed to Portland, where he acquired a good reputation and an extensive practice.

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